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AMERICAN
GAS ENGINEERING JOURNAL
FORMERLY
AMERICAN GAS LIGHT JOURNAL

VOL. CXII., No. 19
WHOLE No. 3244

NEW YORK, SATURDAY, MAY 8, 1920

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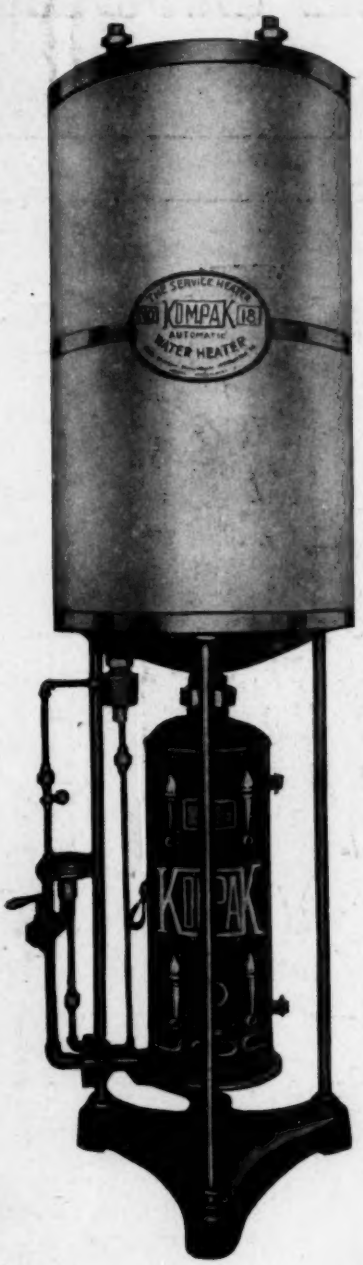

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Entered as second-class matter January 9, 1917, at the post-office at New York, N. Y., under the Act of March 3, 1879.

American
Gas Engineering Journal

FORMERLY THE AMERICAN GAS LIGHT JOURNAL

Vol. CXII, No. 19 NEW YORK, MAY 8, 1920 Whole No. 3244

Benefits to Be Attained by Perfectly Balanced Load Throughout the Year so Great that Maximum Effort to Secure It Is Warranted Even Though Complete Success Can Hardly Be Hoped for

Industrial Business the Means to the End—Pick the Business Whose Peak of Activity Corresponds to the Gas Demand's Valley—When the Various Industries Are Most Active

By L. W. ALWYN SCHMIDT

One of the principal difficulties of all gas works management lies in providing an even load during every month of the year. Domestic business has the disadvantage that it is unusually heavy during the winter months while it shrinks considerably during the summer, especially if it carries with it a considerable heating load. The problem of adding by one or the other means to the summer load so as to bring about a better distribution of gas consumption all the year round is not new to the gas works and has found much discussion in the past. Attempts have been made to increase the industrial load during the summer and by doing so to bring a new source of summer consumption to the gas works.

Experience, however, has shown that the indiscriminate increase of industrial consumption does not bring any relief; in fact, inclines rather to increase the difficulty.

All industrial consumption, or at least most of it, has a tendency to expand, and most industries show a fairly even consumption of gas during all months of the year. To be of use to the gas works the additional summer load must be a real summer load, which means one that will vanish with the end of the summer and give other consumers a chance.

Handling the Problem on Scientific Lines

The problem is one of selection. All industries show certain distinct variations as to the character of their business during certain parts of the year.

There are some that are busy all the year round, there are others that are mainly occupied during the winter, and still others that have the heights of their season during the summer.

It is clear that by properly distributing the gas consumption over a series of industries it will be possible to give to each field of distribution a certain industrial balance that may be used to counteract the influence of the domestic business upon the gas load during the winter months. To arrange for such a balance it is necessary, however, that the gas manager should know the conditions in each industry in his distribution field, so that he may direct the efforts of the sales organization accordingly.

As an aid to this selection a list is given in the following of some of our most important industries. These are industries found generally in all mixed industrial districts. The periods of greatest activity are indicated in each case:

Peak of Activity

January.—Brushes, railroad car construction, cotton goods, electrical machinery, enamelling, jewelry, locomotives, needles, oilcloth, wall paper.

February.—Agricultural implements, leather belting, shoe making, china, men's clothing, cutlery, druggists' goods, straw hats, matches, saddlery, wood turning.

March.—Book binding, fancy boxes, carpets, women's clothing, dyeing, files, foundries and machine shops, furniture, glass, gloves, hairwork, hardware, hosiery, linen goods, pianos, optical goods, photographic apparatus, tobacco pipes, refrigerators, saws, scales, sewing machines, shirts, sporting goods, stationery, suspenders, typewriters, watches.

April.—Automobile bodies, automobiles, carriages, cordage, corsets, envelopes, steel works, lamps, paper, pottery, showcases, soap, trunks, woolen goods.

May.—Mattresses, pencils, rubber goods, shipbuilding, silk goods, window shades.

June.—Artificial stone products, rubber belting, wooden boxes, brick making, butter, cement, fireworks, flavoring extracts, gas machines, paints, pens, stoves.

July.—Asbestos products, automobile repairing, bags, lumber mills.

August.—Canning, leather goods, plumber supplies.

September.—Baskets, railroad repair shops, chemicals, flour milling, hats, writing ink, roofing materials.

October.—Chocolate, collars, combs, confectionery, gas fixtures, looking glasses, perfumery, pocket books, tobacco, toys.

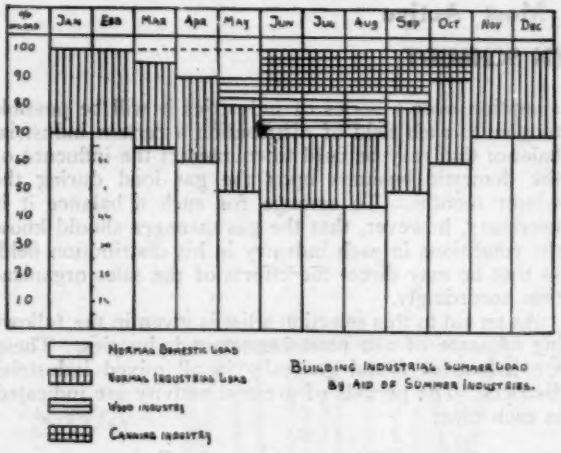
November.—Artificial flowers.

December.—Brooms, musical instruments, phonographs, printing.

The list is fairly comprehensive; one or the other of the industries mentioned can be found in any mixed industrial neighborhood and a selection can be made from it for the purpose of executing a management plan as follows:

Blending the Industrial Consumption

Take your present record of industrial consumers and see during which time of the year they consume by the above load. Compare the result with the theoretical performance as shown by the above statistics. Slight deviations will be found most likely, as local conditions have often an influence upon the work in local industries. But these deviations should not be much larger than a matter of a month or so. There will be few cases where it exceeds two months.



A chart then should be made showing the approximate consumption of each industry during each month of the year, and the deficit in orders that has to be made up during the quiet season.

With this information on hand it is comparatively easy to fill up the gaps by inserting other industries more occupied during the months when the main consumers are quiet.

This work of filling up gaps should start first with the months where the industrial consumption is lowest. These most likely will be the summer months.

As can be seen from the above list there are quite a number of industries that have their high peak of industrial activity during the summer and which, therefore, can be employed for that purpose. The owners of the respective plants should be seen and the situation should be explained to them. If necessary, plans will have to be worked out, showing to them, how they can save operating cost if they employ gas instead of the power source used at the present time.

By adding one or the other important customer or a whole industry to the load of the quietest months of the year, naturally a corresponding increase in other months of the year will have to be considered.

Take, for instance, the pencil industry. This is most busy during the second quarter of the year. The ratio of activity, however, does not decline very heavily during the rest of the year, and about 90 per cent of the business has to be carried all the year round. So only a 10 per cent gain is made in this instance. At the same time, however, all the other months that have still shown a shortage are filled up to a certain point. Some may have now all that they require, while others still can stand an additional load that must come from some other industry.

The situation is best explained by taking recourse to the facts accompanying this article. Let us assume the case of a gas works having a 100 per cent load during the months of November, December, January and February. This load is to be composed of a mixed industrial and domestic business with the domestic and civic consumption exceeding the industrial distribution. The chart assumes that the domestic consumption declines during the summer months to 45 per cent of the peak load and reaches during the winter a highest load of 70 per cent. For the purpose of explanation it is more convenient to assume that the industrial load comprises approximately 30 per cent of the high peak load during nine months of the year with a reduction to 25 per cent during the summer months. It will be seen that the difference between the peak load and the actual load during March declines at the rate of 5 per cent. It sees a further reduction at the rate of 10 per cent and another at 20 per cent during April and May respectively. The lowest point in the load is reached during the months of June, July and August, when the actual load is 30 per cent below the high peak load. To correct the situation it will be the duty of the management to fill up the less busy months in such a manner as to prevent a further increase of the load during the months when the plant is working at full capacity. The process follows the lines indicated above. Care, however, must be taken, not to make the summer load larger than can be carried. It is, therefore, necessary to pick industries that experience their highest activity during the summer months and show hardly any consumption of gas during the winter.

If no such industries can be found it may pay to start a campaign for the purpose of attracting them to the district. The lumber industry and the canning industry are excellent for this purpose. The canning industry especially is a highly seasonal industry, and it can be easily introduced in any industrial neighborhood where an agricultural district is in easy reach. Canning establishments require a great deal of gas or at least could make use of it, if properly shown, and the introduction of a canning industry is of considerable benefit to the whole district. Canning industries, therefore, are a good selection. The paper industry also is a good industry for filling the summer consumption, but it has become of late very erratic in its occupational periods. Also it does not prosper everywhere, as it is dependent very much upon the easy supply of raw materials. The

(*Continued on page* 367.)

Element of Security of Investment Should Not Have Weight It Has Had in Determining Percentage that Constitutes Reasonable Rate of Return

S. E. Mulholland Sums Up the Present Problems of Public Utilities in Two Words—Insufficient Revenue

Even those not engaged in the struggle of management or directly affected by the absence of dividends from utility companies are beginning to realize that a business that cannot fix the selling price of its commodity to conform to its cost price, is in both an unusual and precarious situation during the present out-of-joint times. Public utilities are to-day starving in a land of plenty, declared S. E. Mulholland in a paper before the Indiana Gas Association convention.

The present problems of public utilities can be told in two words—"Insufficient Revenue."

Elaborating a trifle on this statement, many utilities during these days are earning slightly, if any, in excess of the amount required to produce and distribute their product, leaving little or nothing for interest on their investment and absolutely nothing for extensions, betterments and improvement of their properties, to keep pace with the growth of the communities in which they are operating.

This means in many cases inability to earn the interest on the bonds that were issued to provide the funds for constructing the property and receiverships naturally must follow in such instances.

Seller and Purchaser Will Suffer Alike

In the meantime there is no money available for extensions of the property or improvements and enlargements of the plants, notwithstanding the fact that every city of any consequence in the United States to-day is growing to a greater extent than its housing conditions can meet.

You may say, very well, but the public utilities have themselves to blame by reason of their attitude toward the public in years gone by; perhaps you are right, but you must agree that they have been punished for several years and two wrongs do not make a right. There most surely will come a time when a utility, like a person over-punished, will become exhausted and unable to function in a normal manner, with the result that the community and the public will suffer along with the utility.

In every city there are those few who think it popular to take a "whack" at their public utilities—men who sometimes thoughtlessly and sometimes wilfully make statements regarding the service their utilities are rendering them; statements that often are extremely unfair and unjust; to put it mildest—men who forget that their utilities are rendering an indispensable service and are entitled to "fair play and fair pay," just as much as any other concern marketing a necessity; that no other industry furnishes products more necessary than light, heat, communication and transportation. That no other industry has done more toward the permanent upbuilding of the communities, in increasing property values, swelling general business and prosperity and providing safety and convenience to all alike.

Public Has Big Stake

Can those who are constantly working and talking against public utilities visualize what their cities would be without the services rendered by their utilities, even though that service, like that of other businesses where the human factor enters, may not at all times be 100 per cent efficient?

Unwarranted, malicious attacks on public utilities by demagogues are not so popular to-day as a few years ago, largely due to the utilities, finally realizing that to just the extent such attacks are allowed to go unchallenged there is unfair treatment accorded the utilities, thereby hampering their normal expansion to meet the needs of a growing community.

A recent article published by a leading labor journal said: "Let us urge our friends to restrain their impetuosity in the matter of isolating their public utilities companies and trying to put or keep them on a pre-war basis so far as income is concerned. We are going to need these public service corporations during this readjustment period we are now passing through—going to need them about as much as anything else in the country, but unless they are given that reasonable consideration that has been and is being given to other enterprises in this country, there will not be much left of them but scrap and certain more or less useless franchises."

As a consequence of this absurd policy, we have gone very far toward destroying many of these properties and hundreds of them have been reduced to such physical and financial distress that they will not revive for years. The public has a tremendous stake in these public service companies. The impairment of their functions or their compulsory liquidation would work more havoc in this country than a financial panic: while every human precaution has been taken against a monetary panic, generally speaking, no practical or considerate thought has been given to the preservation of the service companies, without which the industrial, social and commercial life of this country could not be continued

We were cautioned two years ago by the financial authorities at Washington against the evils that resided in the crushing of the public service interests; it was shown us that the securities of these companies were

largely held by banks, but there has been little disposition on the part of the public in some communities to recognize the rights (or plight) of their utilities; as long as they could starve along they might do that. Except in a few cases where the distress was so manifest, the public opposed substantial rate increases; the only relief that would save them, with such cheerful indifference to the welfare of the country and their own communities, that the rate making bodies were generally restrained from raising the rates, except in some trifling way.

Concealment With Nothing to Conceal

The question to-day is therefore largely up to the public to indicate to their executives whether all interests will not be best conserved if there is a square deal, no more, no less, all around.

Naturally utilities like other businesses have had and are having their troubles in securing manufacturing materials on account of strikes and other conditions. Sufficient labor has been and is yet a source of worry, while the quality of labor, generally speaking, is far below what it formerly was.

I am going to tell you frankly how the utility I am associated with has fared, and in doing so, you can visualize utilities in general, especially street railway, interurban, telephone, electric and central station heating plants the country over that are passing through the same crisis in their existence.

In times gone by some, yes many, public utilities have for unknown reasons surrounded the operation of their business, in so far as the public was concerned, in a veil of mystery, when there was nothing to conceal. As a matter of fact, the utility commission and through this commission, the people's representatives have access at all times to all utility company's records, the commission even specifying the manner in which their books shall be kept.

Open and frank information cheerfully, honestly and willingly given to the public at all times is not only the best policy but the only right policy. The day of the "public be damned" has given way to the "public be pleased." Here are some facts concerning your own gas company; the present problems of utilities in general and also the views and conclusions of some able men who have given the subject profound consideration.

Figures That Tell the Story

There was manufactured in the Fort Wayne Gas Works during the year 1919, for distribution in Fort Wayne, approximately six hundred and seventy-five million cubic feet of gas, costing 26½ cents more per 1,000 cu. ft. to make than same would have cost had the materials and labor used been purchased at the pre-war or normal prices prevailing in the year 1916; an increase in cost of $179,000, or 121 per cent, due entirely to abnormal prices.

In the fall of 1918 a petition was filed with the Public Service Commission of Indiana asking for an increase in Fort Wayne of 15 cents per 1,000 ft. to afford partial relief, at which time we advised the commission we did not desire to shirk our just share of the burden of the war by passing the entire increased cost on to our customers—they granted an increase of eight cents, amounting in 1919 to $52,000 additional revenue, but approximately $127,000 less than the increased cost to manufacture amounted to during the year.

Gas oil, about three and one-half gallons of which is required to manufacture a thousand feet of gas, has recently advanced nearly 100 per cent over 1919 prices, and some 300 per cent over 1916 prices, so that there will be added to the increased cost of 26½ cents per 1,000 of 1919 over 1916, some eighteen cents additional for gas oil alone, amounting to about $121,000 per year, bringing the probable manufacturing cost of gas in Fort Wayne this year to over 44 cents more per 1,000 cu. ft. or about $300,000 increased cost, over what the same quantity of gas would have cost to manufacture in 1916. The revenue increase has been, as before stated, eight cents per 1,000 cu. ft., or but $52,000.

Other costs are also increasing, even though not to the extent of oil; increase in taxes, due to the new tax law, will add this year an increase of $13,000, or nearly two cents per 1,000 ft., and higher cost of coal and coke, resulting from the recent miners' strike, with assured freight and other increases, will entail additional burdens.

The following comparison of 1916 and present prices of the main materials and labor entering into the manufacture of gas, shows increases ranging from 68 per cent to 312 per cent, an average of 150 per cent, compared with an increase in the rate charged for gas of only 9 per cent, or eight cents.

	1916 Prices.	Present Prices.	Per Cent of Increase.
Gas oil per gallon..	$ .0307	$ .1265	312
Steam coal per ton..	2.03	4.115	101
Gas coal per ton....	2.94	4.96	68
Coke per ton.....	4.21	11.04	162
Labor	....	....	108

You ask how can you continue to exist, or was your former rate of 85 cents exorbitant? Answering the latter first, it was not, but to the contrary was a lower rate than most cities in the country of similar size and many larger ones were paying for gas.

The average price of gas in all cities in the United States of over 100,000 population was in 1910, 95.6 cents as compared with the Fort Wayne price of 90 cents; in 1914, 90.75 cents; Fort Wayne price 85 cents; and in 1919, $1.07.6 compared with the present price in Fort Wayne of 93 cents. This comparison is not with cities of Fort Wayne's class but is the average of all the Metropolitan cities of the United States of over 100,000 population and includes New York, Chicago, Philadelphia, etc., where much greater sales per capita are the rule, due to their more complete saturation.

Some Economy in Greater Sales

There was some economy in greater sales, as other costs have not increased so greatly as manufacturing costs and the increase in the quantity of gas sold over that of the year 1916, coupled with the most rigid economy of operation, has made it possible for this company to continue to meet operating expenses exclusive of interest on investment, but with the further increased costs that are staring us in the face this year, we are confronted with a much more serious condition than even during the past two years, and without rate relief

will be unable to meet operation cost, with no money to apply toward a reasonable rate return on the actual investment in the property, or provide money either from revenue or investment sources for extensions and improvements absolutely needed.

The Element of Hazard

By reasonable rate I am not referring to an 8 per cent return on bonds and stocks, which prior to the establishment of public service commissions, were issued by some companies in quantities and amounts disproportionate to the actual value of their properties, but to an 8 per cent return on the fair value of the property used and useful in the conduct of the business—a rate which is actually much smaller than other businesses having nowhere near such hazards or risks, as exist in the gas business would consider as reasonable, and while actually not enough is as much as public service commissions, as a general rule, permit public utilities to earn.

Gas, like electricity, is an agency for destruction of life and property, if not properly controlled, and may, and does frequently, cause heavy financial losses to the company. Like other manufacturing plants, it has accidents to its employees that must be paid for, but differing from other manufacturing enterprises, gas and electric current after leaving the plant can and do cause heavy expense to the company in the way of accidents to the public and property.

Other risks peculiarly incident to the utility business, are over construction and extensions of lines in new territory to care for the growth of the business that may fail for years to come and in some cases never does come; having their return at times confined to much less than 8 per cent and in some instances practically nothing for long periods of time, such as during and since the recent war, through which periods the properties are operated without fair profit, for the sole benefit and convenience of the public, and manufacturing concerns requiring gas and electric service for the operation of their unprecedentedly prosperous plants.

During the past two years public service commissions have had hundreds of emergency rate cases to consider, and realizing that relief long delayed would be equivalent to relief denied, thereby depriving many cities of their utility service, a thorough evaluation of properties that would have required years to make, was not attempted, but instead tentative valuations requiring only a short time for each were made by the commission's engineers to arrive at an approximate value for emergency rate fixing purposes. Such tentative valuations naturally were much lower than the actual value of the property. Some commissions, including the Indiana Commission, decreed that 6 per cent return on these tentative low valuations during the period of the war was the maximum that utilities generally should be allowed to earn, with the result that many companies failed to earn their bond interest and in some cases earned but little if anything on the actual investment as carried on their books.

Gross Revenue Less Than Cost of Operation

With gross revenue less than the cost of production and operating expense, fixed charges and taxes, to say nothing of dividends, it is obvious that there is nothing left from earnings to care for the extension of mains into new localities, enlargement of plant capacities or needed improvements in general, that in a city of Fort Wayne's size ordinarily averages well over one hundred thousand dollars yearly, at normal costs, and practically double at present prices. It therefore naturally follows that with such a balance sheet to submit to bankers and other investors, money for needed construction, extensions and enlargements of the property is not forthcoming, even when excessive bankrupt interest rates are offered, and the difficulty in securing funds has grown to be so serious a matter that utilities in general and this company as well, have reached the point where further extensions, enlargements and improvements of their properties are going to be impossible until rates are increased to at least a sufficient extent to offer an investment that will attract capital. Speaking generally, a public utility is entitled to a return sufficient to attract funds to like investments. The welfare of the public demands this.

Of all articles of prime necessity entering into the daily budget of the "ultimate consumer," the cost of gas has shown the slightest increase during the period of advancing cost of living; this is true over the whole country, as is shown by the graphic charts prepared by the American Gas Association in July, 1919, "showing how clothing, fuel, shelter, etc., have traveled their fast ascending course upward, until the jagged peaks resemble the skyline of an alpine scene in the rough."

From 1914 to July, 1919, clothing is shown to have increased 100 per cent, while food has gone up 90 per cent. Gas, on the other hand, from figures obtained from 100 cities scattered over the country, has only increased about 10 per cent. All of these percentages have continued to increase since last July.

A slight study of this chart emphasizes to what an inappreciable extent the price of gas has entered into the increased cost of living. Curve No. 7 is based on the average price of gas for domestic consumption in 100 cities in the United States, so distributed both as to size and geographical location as to give a reasonably accurate indication of the price tendency throughout the country, and is derived from actual statistics.

By reason of the relatively small part of the family earnings spent for gas, the household monthly budget would be but little more if the price of gas had been increased in the same ratio as food and clothing. Gas to-day is the cheapest article entering the home.

Public Service for Most Part Transportation

A recent article in the Public Service Magazine defines "Public Service" in its very last analysis to be for the most part, transportation. Of course, it is obvious that street railway service is transportation, and steam railway service is the same. Telephone service is the transportation of the voice—a service which if not performed by wire would have to be carried by mail or special messengers through the streets. Gas service is the delivery of fuel in a condensed form, which, if it were not possible, or is interfered with, would necessitate the hauling of coal or other fuel through the streets in trucks, or, it might be that gas could be delivered in cylinders in some compressed form. If this were done nobody could prevent the use of the streets for such transportation. The distribution of water by means of pipes, laid in the streets, is

(*Continued on page* 364.)

Gas in the Manufacture of Fly Paper

Its Opportunity Lies in Providing the Heat to Soften Warm and Boil Mixtures that Are Applied

By GILBERT SHADWELL

The present time of year is seeing the beginning of the season for the use of fly papers, but their manufacture lasts twelve months in the year.

There are, of course, a very large number of preparations employed for the destruction of flies. Some are of the sticky paper variety, others depend for their action on the use of a poison or a combination of stickiness and poison. There is again another class of fly-destroying agent of the poisonous variety which employs no paper at all. Brief mention of these will be made also.

The individual factories may not be large but the aggregate is a fair-sized industry. But above all it is legitimate individual gas business and all such business is worth-while attending to.

In Its Most Simple Form

The simplest form of sticky fly paper is made by oiling the paper and applying a turpentine varnish. This varnish is made as follows: To each pint of spirits of turpentine there is added 10 oz. of clear resin, pounded; this is put into a vessel which is set on an individual stove where it is allowed to boil for thirty minutes. When the resin is all dissolved it is allowed to cool and is ready for use.

A fly paper of the non-sticky kind is made by the following mixture which is heated together gently: Quassia chips, 150 parts; cobalt chloride, 10 parts; tartar emetic, 2 parts; tincture of long pepper (1 to 4 of proof spirit), 80 parts; water, 400 parts.

Another paper of the semi-sticky type consists of powdered black pepper mixed with syrup to a thick paste by means of a gentle heat. This is spread by means of a broad brush upon coarse blotting paper. Common brown syrup is sometimes used, but syrup made from sugar in the manner outlined in a previous article is better for the reason that it has better tendency to dry. For use, a piece of this paper is laid upon a plate and dampened with water. The paper is also sometimes made directly at the mill by adding sugar to the pulp and afterward one-fourth to one-third of powdered black pepper and rapidly working it into a porous absorbent paper.

One of the cheaper forms of fly paper consists of adding 2 fluid drams of linseed oil to each pound of resin and heating it up in a manner similar to that employed in making a varnish. While the mixture is still warm it is spread on paper which forms the finished product.

Poisonous Type Must Be Heated Gently

One of the poisonous kinds of paper in fairly common use is made as follows: A solution is made consisting of 2 parts of arseniate of potassium or sodium, 4 parts of white sugar and 40 parts of water. Stout unsized paper is saturated in this solution while warm (for it must be heated gently). It is then allowed to dry.

When the paper is used it is moistened with some water and placed in saucers. Naturally great care has to be taken with this paper as it is highly poisonous. It is, however, very effective, but it has the disadvantage that the room in which it is used soon becomes covered with dead flies and these cause some inconvenience, especially as they have to be swept up and care has to be taken that no pet animals eat the poisoned flies.

Another form of fly paper is made as follows: Resin is melted as before and there is added thereto sufficient sweet oil, lard or lamp oil to make it, when cold, about the consistency of honey. This is spread on paper in the usual manner. When in use it will be soon found filled with many ants, flies or vermin in the vicinity.

It will be noted that the resinous varieties have the great advantage of causing their sticky qualities to catch the flies rather than poison them, confining them to the paper.

A rather more usual type of this class of fly paper is made by melting together boiled linseed oil and resin. When these are melted honey is added. The paper is first of all soaked in a strong solution of alum, after which it is dried and the above mixture is applied. Direct gas heat is quite satisfactory to accomplish the drying as the sheets can be hung on racks in a gas-heated dry room.

Another Coating Preparation

Sticky fly paper may be coated with advantage with one of the following mixtures: Resin 9 parts and rape-seed oil 4 parts, or resin 8 parts, turpentine 4 parts, rape-seed oil 4 parts, honey ½ part, or resin 1 lb., molasses 3½ oz., linseed oil 3½ oz. These are boiled until thick enough.

With regard to the different apparatus for destroying flies other than the paper variety, these consist of tin or other vessels into which the following materials are placed. One is made by preparing an infusion of quassia (1 pint). This is then heated up with 4 oz. of sugar and 2 oz. of ground pepper. It is then thoroughly well mixed. When used it is either put in shallow dishes where required or else in a suitable container with outlets to provide access.

One which is also used consists of 1 dram of powdered black pepper, 1 dram of brown sugar and 2 drams of milk.

A common method is to pour a little simple oxymel into a glass into which is placed some paper made into the shape of the upper part of a funnel with a hole in the bottom to admit the flies. Attracted by the smell the flies soon enter the trap in swarms, and by the hundreds soon collected prove that they have not the wit or disposition to return. The gas man will find some concerns making up complete traps to effect the above principle.

It will be found, however, that a number of concerns making fly papers and materials for the destruction of flies also manufacture various insecticides. It is therefore hoped to include some data on this subject in a later article and to give some information in this connection which will prove of interest.

Would Put Manager at Front Door

T. J. Spragle Stamps a Failure to Give One Hundred Per Cent Service a Failure in Public Relations

The utility business is honorable, honest and legitimate and I feel that the manager or a capable representative should have a desk located right up by the front door where he could meet and treat the little, old, mistaken lady with the same consideration he would show the bank president who loans them money, declared T. J. Spragle, in a paper before the Indiana Gas Association convention. That would be rendering one kind of service that would greatly improve our public relations.

To install recording pressure gauges in the front window that would make a record and show the public at all times the pressure of gas in the gas mains at that point. Also the voltage on your electric lines and the pressure of water in the city mains, if you are operating the water utility. This would help to educate the public in your line of business. We should make an effort in every way possible to educate the public in our line of business. A very considerable part of public opinion is founded on prejudice and ignorance of our operation and method of doing business and anything the utility can do to overcome these conditions will make for better "public relations."

I believe the time is coming when the utility company will publish monthly operating statements in the newspapers as the banks do, and do this because it will result in increased confidence. Secrecy inspires distrust and this in turn generates hatred and makes for bad "public relations." Tell your public all, both good and bad, that comes your way, and in a measure it will create that confidence that the utility companies need so badly at the present time. Get acquainted with the people you serve and do not let them be deceived in you.

I read an article in one of the magazines, written by an official of the Pennsylvania Railroad Company, asking all superintendents of railroad shops to make those shops "we" shops, instead of "I" shops. I think we should make our utilities "we" utilities, instead of "I" utilities, for I believe that would make for better service as well as better public relations.

Make the Path of the Regulatory Commission Smooth

If we fail to give 100 per cent service, we fail in our public relations, and if we fail in this respect we will fail to find ready money to finance our utilities. Therefore, the very existence of our utilities depend on our rendering 100 per cent service to the people we serve.

We hear considerable talk in regard to Government ownership of railways and utilities, and unless we give the people we serve 100 per cent service and operate our utilities economically this feeling will grow to large proportions. In fact, this spirit has grown very rapidly since the World War, and if we expect to hold on to the railways and utilities we must give good service, which in turn will improve our public relations.

The State Utility Commission has a service to render to both, the public and the utility company, and it is our duty to render the best possible service and improve our public relations so that the path the State Utility Commission must travel will be made as smooth as possible. Let us co-operate with the State Utility Commission in giving better service and improving our public relations. One of the greatest difficulties we have to deal with is misunderstandings with the public and the utility commission. Let us all get together and work for the best interests of all by serving the people in the most efficient manner.

PUBLICATIONS

Methods of Testing and Specifications for Lubricants

Published by the U. S. Bureau of Mines, Washington, D. C.

The Bureau of Mines, Department of the Interior, announces the publication of a bulletin on the methods of testing and specifications for lubricants adopted by the Committee on Standardization of Petroleum Specification.

These new specifications are based on specifications which have been in force in the war, navy and other departments of the Government, but the committee has harmonized the various requirements of the different departments and has standardized and simplified the specifications and methods of testing so as to provide a uniform code for all Government departments and agencies.

The committee wishes to call attention to two points in these specifications. The first is the method of grouping a large number of oils in three classes, A, B and C. Class A comprises oils suitable for ordinary engine and machine lubricating; Class B, oils for high-speed engines, turbines and dynamos, where an emulsion test is required; Class C comprises oils suitable for gasoline engines, motor cars, and air compressors, also oils which can be used as extra high-grade turbine and dynamo oils. Oils of Class C meet requirements for carbon residue as well as emulsification tests.

Each of the three classes is divided into five grades, according to viscosity, known as extra light, light, medium, heavy and extra heavy, thus covering the bulk of the oils used by the Government. The other specifications refer to special oils and greases for particular purposes.

The second point to be noted is that the specifications have been drawn on the basis of lubricating efficiency without reference to the sources of the oil. This leaves the refiner free to use any crude oil from which he can make satisfactory lubricants, and to adopt any process of manufacture he may find necessary.

A Gas-Power House Workshop

Motor describes a home workshop equipped for carrying out repairs, the plant including a ¾-hp. Gardner gas engine. A coke stove is fixed in one corner and the cast-iron pipe taken up and through the side of the building. The shop is lighted by one large incandescent gas burner in the center of the roof, a shilling in the slot meter being used so that the cost of the gas is easily checked.

Element of Security of Investment Should Not Have Weight It Has Had in Determining Percentage That Constitutes Reasonable Rate of Return

(*Continued from page* 361.)

quite the same as the distribution of gas. If pipes were not used water would have to be supplied from wells, or by transporting it in tanks over the roadways. Finally, electrical energy conveyed by wires, overhead or underground, is nothing more than the stored energy of coal, and the distribution of it by wires takes the place of coal haulage in the streets—again transportation. The public highways, with their expensive pavements, are free to the public for commercial uses, but when improvements and conservation of the uses of the streets are made possible by the use of wires or pipes, there is a disposition to look upon such usage as a favor of which only the franchise corporations obtain the benefit. As a matter of fact, the public service systems ought to be studied from the viewpoint of transportation—service underground or overhead—which takes the place of trucking over expensive and congested roadways, and this improved system of transportation—by pipes and wires—of improved service, does more than merely save the wear and tear on roadways—it makes possible the greater and more assured comfort and convenience of the people.

At a recent meeting of the American Electric Railway Association, P. H. Gadson, of the public utilities war board, declared "that this whole structure of the franchise relationship between electric railways and the various communities have broken down under the strain of the war. The rapid increase in the cost of all material, the extraordinary demands of labor made necessary by the rise in the cost of living, the alarming decrease in the purchasing power of the dollar, have brought the utilities of the country face to face with bankruptcy.

"Practically every other industry except public utilities, whose rates are regulated by law, have been able readily to adjust their methods of doing business to meet the war demands, and the radical increases in the cost of operation and of manufacture have been promptly reflected in the selling price, and so passed on to the consumer. In all other departments of our commercial and industrial life where the economic laws of supply and demand have been unhampered and allowed free play, the inevitable increase in the cost of production has been taken care of in the perfectly normal way of increased cost to the consumer."

A utility has to give service twenty-four hours in each day and in each year—there is no escape from it. A factory that runs twenty-four hours each day can cut the time to twelve hours or eight hours at will, but there are no twelve or eight-hour days for the public utility service—nothing but the full twenty-four-hour day.

Industry generally was never so prosperous notwithstanding the increase in the cost of labor and material. The public utilities present practically the only exception to this rule of prosperity.

John Stanley presents a rather interesting thought relative to the street car nickel cut in half. He says: "The leading economists of the country unite in the statement that the purchasing power of the dollar has declined at least 50 per cent since the early nineties." In other words, the 50 cents of that period bought what it requires $1 for to-day. And this means to the street railways of the United States that the 5-cent fare of the nineties is now less than 2½-cent fare.

In requests for higher rates they are therefore asking nothing more than that what they receive for the service rendered shall be restored to somewhere near its real worth at the time when the rate was fixed. The coin dropped in fare boxes to-day bears as an impress "5 cents," but as compared to the 5 cents which was stipulated in franchises or fixed by statute as the lawful and legal fare, it is 2½ cents and no more. To put the street railway fare upon a parity with what was received in the decade 1890-1900, under a franchise, a statute, or an agreement, calling for the nickel unit, it would now be necessary to substitute the dime for the nickel.

On the other hand, taking $2 a day as the average wage in the earlier period, the workman using the street cars to ride to and from his work was compelled to pay out 5 per cent of his day's wages for transportation. To-day with an average wage of $4, and this is probably much less than the correct figure, he pays for the same purpose but 2½ per cent and the same reduced portion of his earnings buys all of his other public utility needs.

It may be set down as an axiom that if the people of any municipality receive the services of any public utility at less than cost or at less than fair profit, they will later either directly or indirectly be compelled by inexorable economic law, as unchangeable as fate itself, to make up the deficit and often much more. This homely truth is just now receiving a nation-wide illustration in the case of the railways of the country.

Deferred Maintenance Element

It is also a fact that since 1917 most utilities have had lower earnings than they should have had in the interest of the public, as well as those who had their money invested in the business, for insufficient revenue always means deferred maintenance.

To keep a utility property in condition to render proper service to the community there must be a certain sum expended each year in maintenance of plant and distribution system, such as repairs to buildings, apparatus, street mains, meters, etc., otherwise a day will come when there will be an accumulated expenditure required for this purpose that will be even greater than the total would have amounted to had maintenance been taken care of each year, as should have been done. A "stitch in time saves nine," and as maintenance cost is simply an operating expense, the time inevitably arrives when rates must be increased to meet heavy expenditures for this purpose, and perhaps at a time when prosperity is not so general and the public's earnings not so well able to pay the greatly increased rates then required. Even otherwise the best policy in all cases is to pay as you go, by providing reasonable rates that will eliminate deferred maintenance.

Taking into consideration the fact that the purchasing power of an 8 per cent return to-day is little more than a 4 per cent return a few years ago and that industrial and real estate first mortgage bonds and other high-grade safe investments, with no hazard whatever,

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American
Gas Engineering Journal

SIXTY-FIRST YEAR

Published Weekly by AMERICAN GAS LIGHT JOURNAL, INC., 150 Nassau Street, New York, N. Y.

ELBERT P. CALLENDER, Pres. S. G. KRAKE, Vice-Pres. FREDERICK A. SOUTHWORTH, Sec'y-Treas.

EUGENE C. MILES, Editor

Subscription $3.00 per year, including postage in the United States, Mexico, Cuba, Porto Rico, Hawaii or the Philippines; in Canada, $4.00; foreign, $5.00—Single Copies, 10 cents

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As the Journal Views It

Being Satisfied with Less

The period through which we have just about passed, unless signs are deceptive, has been one of rebellion against the inevitable.

During the war, by self-enforced denial induced by patriotism, we managed to accumulate some property in Liberty Bonds and also a terrific thirst for an extravagant, care-free fling.

We wanted candies, we wanted fine raiment and many changes—that 68 deg. maximum temperature in our homes was comfortable, but it was a restriction—we wanted to bask in baking warmth, we wanted to let the gasoline flow unrestricted, especially on Sundays, we wanted the unessential things. We had been denied them more than our spirits relished.

The times were not propitious for our indulgence. Everyone else wanted the same things. Demand was high and so were prices. Common sense might have told us that, on the average, life is ordinarily long. If we restrained ourselves a year or so longer there would yet be ample time to revel in the extravagance we craved.

But common sense was a quality in small repute. We had the wherewithal; could get it by selling our bonds. We could fly high for a time even if, shortly, we came down with a thud. And we did!

Now we are awakening. We're beginning to see the silliness of it.

Woolen manufacturers say prices have reached the limit. If material costs are to be higher, or labor, they will close down the mills. And mentally we applaud. There must be a stop somewhere. Of course, we need the products of the woolen mills. But with a principle

at stake; the very life of the country, with the aid of a darning needle, we can tide over.

A realization has come that only through self-denial and real work can we get back on our feet again. We lean to the old clothes idea. No matter how much available funds one has, he is more or less ashamed, in a time when part of the population promises to be shelterless, to undertake things where labor and material are required unless its aim represents a substantial and needed purpose. We are getting back to normal.

A Prolific Source of Unrest

In the matter of housing we have a prolific source of unrest.

Under present conditions men have been unable to remain employed in certain localities due to sheer inability to secure habitations.

Excessive charges for rent have compelled a submission to conditions and surroundings that are positively nauseating to the individual's tastes. And a man who revolts at returning to his home after his day's work, or even does not return home in eagerness, cannot well be placed in the category of the contented.

They have compelled crowding together; doubling up of families. This tends to sickness, immorality, domestic bickerings and discontent, unhealthy and unhappy children—other factors opposed to a contented frame of mind.

And industry has discovered that the contented worker is the best worker.

Most large industries are giving thought to employees' housing. There is no philanthropy about it; merely straight, good business.

Gas companies might well turn their minds in this direction.

Some companies already are selling large amounts of their securities to their own employees. A stock-owning and home-owning employee would constitute a combination towards tranquillity as regards the labor problem that would be hard to improve on.

Intelligent Selection of the Kind of Load

It is obvious that the ideal gas-company load is the load that for twelve months of the year will keep the plant working at even capacity.

Winter business is not hard to find; the problem is to fill up the summer valley. Because we have not been as effective as we might have been in keeping the gas range working all the year through, this form of summer business more or less balances the auxiliary house heating we do in winter, but what of the time when all gas ranges, as they should be, are working twelve months of the year and we are doing not merely an auxiliary heating business, but a real heating business in winter?

There are few essentially summer businesses. But there are numerous industries wherein the peak of activity falls in the summer months. Getting a balanced load, therefore, becomes a matter of proportioning, as outlined in the leading article of this issue of the AMERICAN GAS ENGINEERING JOURNAL.

Loads cannot be balanced on generalities. It is a task that must be accomplished through painstaking efforts and study.

Element of Security of Investment Should Not Have Weight It Has Had in Determining Percentage That Constitutes Reasonable Rate of Return

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yield 7 to 8 per cent, and provide such a return continuously, any business man can readily appreciate the unfairness of compelling a utility to operate its property with little return on its investment for long periods of time and a limit of 8 per cent under normal conditions. The purchasing power of the dollar and not the number of dollars received is the important factor. This is the reason why utility investments are not attractive to-day and why new capital for enlargements and extensions of utility properties is not available and will not be available until reasonable rates for the service rendered are assured.

It would therefore seem that the public have, as viewed by a writer, who has given the subject much thought, the choice of the following three courses to pursue:

First.—To keep the utilities in experienced and competent hands and thus assure the best possible service to the public; to make an honest and energetic effort for such fair and reasonable compensation as will protect the service for the public and the property for its owners.

Second.—To turn the utilities over to the bankruptcy courts and force the public to pay such rates for the service as the courts may find it necessary to order.

Third.—To unload the utilities, with all their responsibilities, on the municipalities and let the taxpayers pay the losses.

Many communities are awakening to the fact that not merely common honesty but their own interests demand that the public utilities should be fairly treated; as an illustration, during the years of regulation of rates downward a new and startling idea gradually crept into the minds of many people throughout the United States. This idea was that once an individual or corporation invested its funds in a public utility, no matter what the result might be (whether profit or loss), no matter what the increased cost of operation, it must continue to keep on furnishing the service. Whether it was successful or unfortunate, whether it was making money or was losing it, it had undertaken to furnish a necessary service and it must furnish that service at all times and at a maximum of efficiency.

In a recent opinion the Public Service Commission of Pennsylvania makes the following statement:

"A public utility is not a charitable institution. Its patrons are not expected to, nor can they be compelled to pay more than reasonable rates and neither can the utility be expected to survive on rates less than those

sufficient to produce revenue to pay proper expenses and fair return.

"The utility rendering the service and the public in a community accepting it, must bear in mind their interdependent relations."

In this connection, the statement of a member of the Illinois Public Service Commission is pertinent. He said: "I regard it as just as much the duty of this commission under the law to afford relief to a utility, even though such relief results in increased rates to the public, when the facts and circumstances warrant such relief, as I regard it the duty of the commission to afford similar relief to the public by a reduction in rates when facts and circumstances warrant such action," and while public utility commissions can and are giving the utilities of the country more or less relief it should be the duty of civic organizations, in the interest of their own communities, to take the lead in seeing that their utilities are given at least a square deal, such as was recently done by the Bangor, Me., Chamber of Commerce in resolutions that concisely cover the problem:

"Whereas, The Bangor Chamber of Commerce feels that the country is facing a grave situation in regard to public utilities; and,

"Whereas, It feels that all citizens are vitally interested in the well-being of the public utilities; and

"Whereas, It feels that on its organization and on similar organizations throughout this entire country, rests a grave responsibility in this regard; now, therefore, be it

"Resolved, That the Bangor Chamber of Commerce, realizing that its duty is to study the question, both in the State of Maine and elsewhere, desires to make known to its members and to the citizens of the community the result of its study."

That as a result of that study the Bangor Chamber of Commerce finds that a substantial part of the funds of the savings banks is invested in bonds of public utilities; that the depositors of mutual savings banks are in reality part owners of every such investment; that the same is true of the life insurance companies, that the present and future well-being of every community is directly dependent upon the successful running and further development of the public utilities operating in its locality; that every such community should be anxious to see that the conditions under which such public utilities are operating are such as to allow the companies sufficient revenue to properly protect the public from accidents, to keep their properties in good condition, to render efficient service to the public, to make further needed developments, and to guard safely the property ownership of the investing public.

The Bangor Chamber of Commerce feels that a much graver responsibility rests with the public service commissions; that their sworn duty is to see that the public utilities are properly and efficiently run; that they are responsible for the credit, continuity and general well-being of the public utilities; that every public service commission should be upheld and backed where it has recognized such responsibility; that where commissions have not so recognized this duty, the public should insist that they do.

The Bangor Chamber of Commerce urges every board of trade in the State of Maine to start at once a study of the question, to urge the National Chamber of Commerce at Washington to give space in the *Nation's Business* to this question, to ask the National Chamber of Commerce to urge every member of the national association to study this question and to make known, through publicity in the same channels, the result of this study, to aid in solving rightly this very grave problem.

The views of a close student of public utility problems are worth remembering. The future of our utilities rests in people that we are prepared to give and receive a "square deal." We must show them that a well managed and honestly regulated utility reflects the honesty, the fairness and the intelligence of the people, and I have that faith in their integrity and clearsightedness which causes me to feel that the real American public wants nothing so much as it wants fair play, and if we recognize the fact that we are not free agents to do as we please with the properties under our control, but that we must recognize the public's rights, we will be upheld and supported by enlightened regulating authorities and the public will see us—not as a stranger, not as a heartless corporation, but as a vital part of the communities we serve.

Benefits to Be Attained by Perfectly Balanced Load Throughout the Year so Great that Maximum Effort to Secure It Is Warranted Even Though Complete Success Can Hardly Be Hoped for

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leather goods industry, working for Christmas business, also is generally more busy during the summer months. The paint industry is another example of an industry having the high period of its occupation during the summer, when building activity is at its best. The dairy industry is generally very active during the three months of June, July and August, and so is the cement industry, but the latter cannot be introduced everywhere successfully. Brickyards, however, may take its place. Automobile repair shops are well occupied while the summer weather permits automobile touring. Also the stove industry is a good filler to help over the slackness of the summer without increasing unduly the winter load. Naturally each of these industries, with the exception of the canning industry which is generally dead during the winter, will appear as a consumer also during the winter. The best for its availability as a filler in the summer, however, is its expansive capacity during that time and its corresponding retraction during the winter months.

The work of blending the industrial consumption in any district, of course, is never easy. It requires the close co-operation of the gas works with the local industry, and it needs, as a rule, an educational campaign among the industrial consumers. The benefits to be obtained from a perfect balance of the gas consumption, however, are so great that the attempt is worth the trouble even if it should not succeed entirely. In the instance of the case represented in the accompanying chart, an effort has been made to raise the summer load by adding to it the lighting and power business of a number of saw mills, box makers and several canning establishments working, day and night, during the campaign season. A fairly high percentage of consumption efficiency was reached in this manner and the system no doubt can still be perfected.

Some Hot Weather Business

By FRANK FARRINGTON

There is always some special seasonable line of business to be had by going after it. Each season of the year brings its own peculiar needs in the way of lighting and heating uses, and it is a wise appliance dealer who goes after the seasonable business—just a little ahead of its season.

The time to ask for business on equipment that will be used during the long evenings of early winter is late in the fall, when the first early darkness appears and when the family begins to spend its evenings indoors. To wait until the first of December or later to begin asking for such business is to wait until a large proportion of the prospective purchasers have made their buying plans, and perhaps without giving you a chance.

Go After the Summer Business Now

And in the same way, when it comes to cashing in on the gas appliance and fixture needs for hot weather, if you want to get the best of that business go after it before the weather gets hot, before people have already decided upon what they want and the place to get it. To wait until the demand for seasonable equipment begins is to wait so long that somebody else is likely to get the lion's share of the sales.

Here are some letters adapted to use in stirring up business that is seasonable in the spring. These letters should be made by some duplicating device that will admit of filling in the names and dates, if such a duplicator is available for doing imitation typewritten work. They might be printed, but that would make them obviously impersonal circulars. Or, if the number of prospects along the lines under consideration is limited, the list might be covered by typewriting a few letters each day, making each one an actual individual, personal letter. Half a dozen letters a day take but a little time, and that means covering a considerable list in two months. Of course, even in following such a plan a form of letter should be used in order to save time and to make use of the best style of letter.

Auxiliary Heating Plant

Here is a letter calculated to interest well-to-do people in an auxiliary heating plant that will be useful when the weather has become warm enough so that the main steam or hot-water plant of the home is too elaborate and expensive to operate; when all that is needed is a little heat night and morning:

> Dear Sir: Operating the big heating plant in your home merely for the advantage of a little warmth for the cool evenings and chilly mornings is an unnecessary expense.
>
> Have you ever thought how easy it would be to put in a gas-heating equipment for use night and morning?
>
> One of our ——— outfits would make it possible for you to have quick gas-generated heat in the evening just as wanted, and it would keep the bathroom warm through the night and give you such heat as you want in the early morning.
>
> It costs but a little to install one of these outfits. We can put it in in a couple of days or less without disturbing the family, and you can have heat just when you want it at such a saving over the cost of using your regular heating plant as will pay for the outfit in a little while.
>
> It will not cost you a cent to have us call at your home at any time, day or evening, and look the situation over and tell you what a ——— outfit would cost you, all installed and in working order. And just because you have us come and make an estimate you are not placed under any obligation to order. We want you to know what we can do for you.
>
> Yours very truly,

That letter should name the make of equipment you are featuring, and if you know what kind of heat the man already has in his house you can refer to it in the first line as "steam" or "hot water" or "hot air," as the case may be, thus showing the letter to be more especially individual.

Here is a letter about a hot-water-producing outfit:

> Dear Madam: In a home where the hot-water supply is produced by the heating apparatus or by the range, if there is a change to gas in summer it often leaves the family without a hot-water supply.
>
> Where a coal or wood burning range is used the rest of the year and gas in summer, it is necessary to start up the range when hot water is wanted for bathing or for laundry work.
>
> The right way to handle this situation is to put in a ——— instantaneous automatic water heater. It does not cost much to install one. There is no inconvenience about putting it in. It is operated with a small amount of gas and it gives you hot water at once.
>
> A thermostatic valve makes

it possible to adjust the apparatus to give you water of the temperature you want. The hot-water heater does not heat the house at all. It applies the heat only to the water pipes and very little gas is used.

Let us show you how it works and what it would cost installed in your house. It will make summer a great deal easier and more comfortable. You realize what a great convenience it would be to have hot water when you want it and all of it you want, at practically no cost after the outfit is put in.

Yours very truly,

The letter first given was intended to apply particularly to the installation of a heating system adapted to keeping a considerable part of the house warm by means of a central plant. Here is a letter suggesting the use of small gas heaters for individual rooms, for use on cool occasions in late spring or early fall.

The first letter was planned to be sent to the man of the family as the one chiefly interested in such an investment, viewed from the pecuniary end. This letter is addressed to the woman of the house, because it will be she who will feel more keenly the necessity for heat night and morning, especially where the husband has business that takes him away from home so he does not know the discomforts of the chilly house on damp, raw days that come even in summer in some parts of the country.

Dear Madam: After the furnace is turned off for the season there come many chilly days, many cold nights and mornings, when it is mighty uncomfortable with no fire at all.

Having to dress in the cold in the morning, having to hover around the kitchen range in the evening, and having to shiver many days all day makes some parts of summer much less comfortable than real winter.

There is danger, too, in this chilly atmosphere in the house. It is very likely to result in colds and sickness.

You can protect yourself from discomfort and your family from illness and unpleasantly cold evenings by a very small investment in a gas heater.

Just connect up a gas heater with the home gas supply and be comfortable. You can use a gas heater in the living-room, bathroom, dining-room, or wherever it seems most desirable, and you can buy such a gas heater from $—— to $——.

If you do not want to make the connection with a temporary tube, we will install regular gas pipe with stopcock, etc., making the apparatus as safe as any gas stove or gas jet.

Yours very truly,

In getting out these letters make them neat in appearance and use good paper and envelopes to match for the purpose. If you have no duplicator, perhaps you can arrange to rent one from some concern in town that has a good one. They might be willing to rent the use of the machine with the understanding that you hire their operator to do your work on it after their regular hours.

Of course, the best thing to do is to install a multigraph or duplicator or mimeograph, or some other of the well-known machines that do good work, and get out letters regularly. If you were to send out to the people around you a letter every week for a year telling of the many things you can do for them it would result in a very important growth in your business, a growth that would continue even for a time if you were to give up publicity at the end of the year. The cost of the machine and the advertising would be negligible in the face of the results.

Finding the Way to Overcome the Mental Bias

By C. E. Shaffner

When a well-known writer of humor told recently in one of his stories of a man who could instantly name the make of an automobile by sniffing the exhaust, he facetiously described a peculiar turn of mind with respect to mechanical things which the Detroit City Gas Company has been compelled to take into account, because the general interest in mechanical appliances on the part of a large majority of its prospective customers is so pronounced that mental bias with regard to one or more technical details of construction in the absence of a complete presentation of the facts may result from a reading of one of the advertisements and to a great extent impair the chances of making a sale at some future time.

Upon first glance it would seem that such widespread mechanical interest and knowledge should constitute a splendid working basis for a more thorough appreciation of the advantages of a particular gas appliance as set forth in the advertising, and as a matter of fact this is entirely true. But on the other hand the disadvantages are even more apparent for the reason that a technical description of a water heater or a gas range, for instance, will appeal to the critical rather than the appreciative faculty of a reader who is engaged in mechanical work and who has an absorbing interest in mechanical appliances of all sorts and descriptions. In the main, however, these snap conclusions are based on a knowledge of general principles of mechanical construction and are readily dispelled when a salesman with a complete understanding of the construction of a gas appliance is given an opportunity to explain its merits.

Because of this appreciation of the fact that in the merchandising of gas appliances "a little knowledge is a more dangerous thing" for the prospective customer than on the part of the salesmen, the Detroit City Gas Company has decided to keep as far as possible from technical descriptions in their advertisements so that no antagonism may be engendered in the minds of their readers before they have had a proper opportunity to present their case. Consequently they are confining their advertising efforts almost entirely to general statements of facts designed to establish their reputation for selling good appliances and containing just enough details to pique the curiosity of the reader with regard to the mechanical construction of any one appliance.

Of course, the application of these facts are by no means universal, although in factory centers where the mechanical interest is equally pronounced, there is no question that a similar situation may exist. The factory worker, especially if he or she is engaged in actual machining of products, has decided opinions on automobiles from the lowly Ford to the luxurious Rolls-Royce and on a great many other mechanical contrivances, and no matter how incomplete or hazy this underlying knowledge

happens to be, it is not easily removed if it is in the nature of a first impression such as will be gained usually from reading an advertisement. It seems just as evident for those who have little or no mechanical knowledge or interest that any marked attention to technical details will hardly stir up even a spark of interest. In fact, this same conclusion has been reached in the merchandising of one of the popular makes of automobiles by qualifying a paragraph with the title, "For Those Who Are Mechanically Inclined," because it is believed that the special mechanical advantage explained under this head will appeal only to those who are directly interested in a technical explanation, and it is important to note that no attempt is made to explain all of the technical details but only one that is looked upon as especially noteworthy and distinctive.

By appreciating these tendencies of prospects whereby at least two general classes of possible customers may be classified as those who believe that a gas appliance will not work because of mechanical deficiencies as the result of incomplete facts gained from too cursory a study and too extensive an assumption, and in addition those who are concerned with knowing whether a water heater or a gas range will work continuously, the Detroit City Gas Company has not only been able to increase sales to a considerable extent, but at the same time it has conveyed a general idea of reliability and satisfactory service which constitutes a real working basis for the sales force.

Diplomas Awarded Gas Company Employees

Diplomas have been awarded to fifteen employees of the Rochester Gas & Electric Corporation, Rochester, N. Y., for having completed the course conducted by the Rochester Chamber Local No. 9 of the National Safety Council, for safety supervisors.

Those receiving diplomas are W. J. Consler, Seth Creighton, P. J. Drumm, C. B. Evans, J. Fahy, C. T. Gardiner, Gustave Haap, George Howell, P. W. Martin, Thomas H. Nash, Edward J. Pye, C. Stoneburg, H. Sugden, William J. K. Sutherland, George B. Swarthout and William H. White.

Gas Appliance Manufacturers Exhibit at "Own Your Own Home" Exposition

An interesting exhibition to the general public was held at the Grand Central Palace, New York, for one week, from May 1 to 8. It was called the "Own Your Own Home" Exposition. The idea of this exhibit was to encourage the individual to become a home owner, and the exhibits covered practically everything pertaining to the construction and maintenance of the home.

The American Gas Association had a booth from which was distributed literature of all kinds of gas-burning appliances for the home, and the following manufacturers of gas-burning appliances had exhibits: The Kompak Company, New Brunswick, N. J., which had a working exhibit; also the Ruud Automatic Water Heater, Pittsburgh, Pa.; the Elliott Water Heater Company, Brooklyn, N. Y., exhibiting the Elliott combination water heater and gas-stove top; the Bastian & Morley Company, La Porte, Ind., exhibiting the "Marvel" combination range boiler and water heater, and the Vesuvius Engineering Corporation, New York, exhibiting a special line of gas-heating appliances for restaurants and hotels.

Each day was devoted to a special locality; that is, one day was called Long Island Day, one day Brooklyn Day, etc. In the afternoon there were lectures on different subjects pertaining to labor-saving services for the home.

A. G. A. Calls Meeting of Gas Company Executives

At a meeting of the executive board of the American Gas Association held in New York on April 28 a discussion of the serious condition which confronts many of the gas companies in the matter of inadequate rates and the unprecedented prices which they are being forced to pay for essential gas-making materials led to a resolution requesting the president to call a meeting of executives of gas companies and representatives of gas company members of the association to be held in New York City on May 26 at 10.30 a. m. in the small ballroom on the mezzanine floor of the Hotel Pennsylvania.

At that time a special committee, which has already been appointed, will present a program the purpose of which is intended to acquaint the consuming public with the facts, to make clear the essential character of gas service and to bring about a widespread recognition of the necessity for immediate relief to gas companies, which unless granted will inevitably lead to a condition of grave concern to every community.

You are urged to have present a representative authorized to act for your company in this important matter. It is believed that by prompt and concerted action of the kind proposed much may be accomplished to bring about an improvement in the conditions which now so seriously menace the gas industry.

It is suggested to those who contemplate arrival in New York the night before, or who may remain overnight on May 26, that room reservations for the Hotel Pennsylvania be made well in advance direct to W. P. Taylor, assistant manager.

Indiana Gas Convention

The twelfth annual meeting of the Indiana Gas Association was held at the West Baden Springs Hotel, West Baden, Ind., on April 26 and 27. The following officers and directors were elected:

President — W. W. Goodrich, Winchester, Ind.

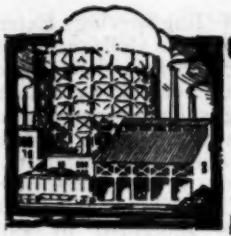
Vice - President — Morse Dellplain, Hammond, Ind.

Secretary - Treasurer — E. J. Burke, Indianapolis, Ind.

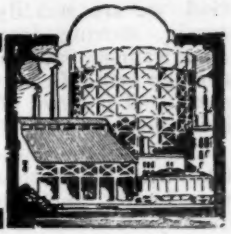
Directors—H. J. Roach, Crawfordsville; F. B. Tracy, Muncie; Leonard Fitzgerald, Gary; G. E. Spitzer, Vincennes, and Frank Dick, New Albany.

Gas Company Wins Window Display Prize

The display of Hoover Suction Sweepers in the window of the Municipal Gas Company, Albany, N. Y., which created much comment at Christmas time, has been awarded second prize in competition with the window displays of Hoover dealers throughout the country. The prizes offered have created keen rivalry among Hoover dealers and many scores of windows are entered annually in this contest.



NEWS OF THE GAS INDUSTRY



Iowa District Gas Association Holds Most Successful Convention in Its History

No Papers Presented—Lively Discussions on Timely Topics—Plan to Organize Publicity Bureau

The fifteen annual convention of the Iowa District Gas Association was held on April 21 and 22 at Des Moines, Iowa. Headquarters were at the new palatial Hotel Fort Des Moines, and the excellent service and attention helped to make this the most successful convention in the history of the Iowa District Gas Association.

On Tuesday evening the customary meeting of the officers and council was held in preparation for the convention sessions.

The opening session of the convention was called to order by the president, George D. Roper, on Wednesday morning. After a few words of welcome the regular order of business proceeded.

The following new members were elected: Joseph H. Ainsworth, general manager, Iowa Public Service Company, Ames, Iowa; Frederic D. Brown, secretary and manager, Huron (S. D.) Light & Power Company; Frank Bush, superintendent of works, Iowa City (Iowa) Light & Power Company; Carrington Cabell, president, Cabell Petroleum Company, St. Louis, Mo.; Thomas L. Connor, superintendent gas department, Peoples Gas & Electric Company, Mason City, Iowa; Elmer Crawford, manager, Maquoketa (Iowa) Light & Heat Company; Henry A. Duwe, sales manager, Peoples Gas & Electric Company, Mason City, Iowa; A. L. Fuller, new-business manager, Muscatine (Iowa) Light Company; E. N. Gentry, manager, Iowa Electric Company, Fairfield, Iowa; Bliss P. Georgia, salesman, Welsbach Company, Chicago, Ill.; H. Gildersleeve, salesman, Humphrey Company, Kalamazoo, Mich.; W. W. Hall, salesman, Welsbach Company, Chicago, Ill.; Eric W. Hammond, salesman, American Meter Company, Kansas City, Mo.; H. F. Kellogg, manager, Iowa Gas Company, Iowa Falls, Iowa; Bert Kent, new-business manager, Iowa City (Iowa) Light & Power Company; E. W. Kriekard, salesman, Cedar Rapids (Iowa) Gas Company; George J. Liebold, salesman, Humphrey Company, Kalamazoo, Mich.; J. N. McCallum, president, Union Utilities Company, Chicago, Ill.; C. A. Orebaugh, salesman, National Stove Company, Cincinnati, Ohio; C. L. Paullin, superintendent of manufacturing, Ottumwa (Iowa) Gas Company; L. W. Phillips, secretary and general manager, Fremont (Neb.) Gas & Electric Company; W. H. Potter, manager, Creston (Iowa) Gas & Electric Company; Edwin F. Ripley, Western representative, *The Gas Age*, Chicago, Ill.; F. M. Roberts, manager, Keokuk (Iowa) Electric Company.

The treasurer's report, which showed the finances to be in a satisfactory condition, was followed by reports from the various affiliated representatives of the I. D. G. A. on the section managing committees of the American Gas Association. The latter reports were very interesting, particularly that made by H. B. Maynard, of the accounting section.

After hearing the report of the nominating committee the following were elected to office for the coming year:

President—William H. Taylor, Omaha, Neb.

First Vice-President—C. N. Chubb, Davenport, Iowa.

Second Vice-President—H. B. Maynard, Waterloo, Iowa.

Secretary and Treasurer—H. R. Sterrett, Des Moines, Iowa.

Members of Council—H. J. Carson, Cedar Rapids, Iowa; H. E. Bennett, Cherokee, Iowa; A. S. Graham, Sioux Falls, S. D.

Affiliation Representatives to A. G. A.—Technical section, C. N. Chubb, Davenport, Iowa; accounting section, Austin Burt, Waterloo, Iowa; commercial section, E. H. Martin, Des Moines, Iowa; manufacturers' section, George D. Roper, Rockford, Ill.; advertising section, George McLean, Dubuque, Iowa.

The secretary read a number of telegrams and letters from members who, due to the conditions brought about by the railroad strike, were unable to attend the convention. F. T. Hanlon then was asked to take the chair, and after appointing a committee to consider the president's address the latter was delivered by Colonel Roper in his inimitable manner. He dwelt on the responsibility and resourcefulness of the "average man." He said in part:

"Some gifted leader may lead the music, but the average man constitutes the chorus. No extreme can permanently keep control in this country. It must be the middle, the average man in this country; it must continue to be the average man's ideas that control our activities and our enterprises. The idea of fair play, of equal justice to all and for always, must continue to make every sort of domineering oppression forever impossible. This, gentlemen, is the American of to-day. . . . If as the outgrowth of the present agitation or readjustment of business, if when it settles down the average man is in control; if he will see to it that labor and the employer are both well treated, that labor gets its fair share, that the employer gets his fair share, there will be no question but that capital will be satisfied and it will be easy to invest and we will have normal, happy times again. . . . Thank

God, we are steadily, slowly but surely, moving into the larger Americanism, into the rule of the average man. Let everybody keep steady. The dawn of a better day is in the sky."

Colonel Roper's speech, ringing true with the real Americanism, was loudly applauded and frequently referred to through the subsequent convention sessions.

As had been announced, the convention program was divided into four sessions, each conducted by a different chairman. No stenographic report was made, so that anyone could say anything he wished and in any way he wished.

The accounting session, under the leadership of Austin Burt, of Waterloo, followed President Roper's address. The discussion of the advisability and necessity of all gas companies, even the small situations, keeping their accounts in such a way as to be able to demonstrate the cost of operating proved of great interest. An instance was shown where the small companies with an accurate accounting system had been able to secure rate increases, while the company with poor and inaccurate accounts was often unsuccessful in its attempt for a higher rate.

It was stated that the income tax report had proved beneficial to many small companies, since it compelled them to study their accounts carefully.

Mr. Crawford, of Clinton, Iowa, suggested that a yearly audit by an outside certified accountant was in his opinion an excellent plan for small and medium sized companies. This accountant could also make up the income tax report at the same time.

Meter reading was discussed and the advantages of continuous meter reading were pointed out to be a more even rate of work in the bookkeeping and billing departments, fewer meter readers and steady work. Several plans for reading meters were explained.

The Wednesday afternoon session was opened by an intensely interesting and instructive address by B. J. Mullany on "Informing the Public." Mr. Mullany is director of the Illinois Committee on Public Utility Information, and told of the success of the work in Illinois during the past year. Mr. Mullany showed that it is necessary to inform the public as to the real condition of public utilities in general in order to secure just and intelligent action on the question of rates, etc. He also thought that it was the duty of the public utility companies to see that their consumers became acquainted with the reasons for rate increases, changes of standard, etc.

In Illinois the Public Utility Information Bureau is maintained by the various public utility companies of the State and it supplies information and not argumentative copy to all newspapers of Illinois, furnishes material for debates in schools and colleges, issues bulletins to men who have a chance to say a word now and then for public utilities, supplies data to manufacturers in lines kindred to the utility field for use by their salesmen while on the road. The local public utility companies must get acquainted with their newspaper men and supply the information, being sure that it is reliable. If newspapers continue to publish articles adverse to the public utilities the local managers should call the editor's attention by letter to all inaccuracies and unfair statements.

Mr. Mullany stated that the work had been extended and that several other States had formed committee on public utility information along the line which has proved successful in Illinois. In Iowa a preliminary meeting of men from the various public service companies was held in February for the purpose of securing action toward the formation of such a bureau in this State. Rex Fowler, who has been acting as secretary of this committee, explained the work which it is proposed this bureau will do during the first year. He also said that in his opinion an assessment against all public utility companies of one-fiftieth of 1 per cent of their gross receipts would be sufficient to defray the first year's expenses.

After some discussion of the subject a motion was passed to the effect that the conclusions of opinion of the Iowa District Gas Association be in favor of the plan of organizing a bureau of public utility information in Iowa and that a committee of three be appointed to confer with representatives from other utilities of the State in completing the plans for such a bureau.

President Roper announced the following committee: F. T. Hanlon, chairman, Jansen Haines and A. L. English.

D. C. Faber, director of the Department of Engineering Extension at Iowa State College, Ames, Iowa, brought before the convention the matter of holding a short course on gas engineering under the auspices of the Iowa District Gas Association. A committee consisting of J. H. Ainsworth, chairman, C. N. Chubb and H. R. Sterrett was appointed to look after this matter.

The new-business session, under the leadership of C. A. Nash, commercial agent at Davenport, Iowa, was exceedingly interesting. Mr. Nash opened the session with some well-directed remarks on the subjects of merchandising, advertising and selling, and a lively discussion followed. The general opinion was that the new-business department is a merchandising proposition and should absolutely be self-supporting; in fact, should show a fair profit at the end of the year. One man cleverly brought out the fact that we sell gas to make a profit on appliances instead of appliances in order to sell more gas.

The subject of methods of compensating salesmen was discussed and the commission basis seemed to have proven very successful in a number of the larger situations. One man pays 7 per cent on all outside sales and straight salary to floor salesmen; another pays 10 per cent commission to outside salesmen and 4 per cent to floor salesmen; another pays 10 per cent commission to outside salesmen and straight salary to floor salesmen. The general opinion seemed to be that the higher type salesmen capable of making good money are more desirable than the old-style low-salaried solicitor.

A number of successful advertising campaigns and methods were described and discussed.

The new-business session succeeded in bringing out so much interesting discussion that it was decided to finish on Thursday.

The banquet on Wednesday night, under the able direction of John Parker, was a great success. The speaker of the evening, Hon. Frederic D. Landis, delivered an address on the subject "Americanism." Mr. Landis is an orator of great ability and made a speech that his auditors will long remember. The applause was spontaneous and prolonged.

On Thursday morning the distribution session was held, with H. J. Carson as chairman.

Mr. Carson first took up the sub-

ject of types of distribution systems. Several systems were described and the reasons given why each particular system had been selected. The medium pressure system of distributing has to take care of low-pressure areas and was discussed in detail, since several situations have this system in operation. The types of district governors and house governors were discussed, as was also the advisability of using a telemetric gauge to record distant pressure at the works. Some very interesting discussions were brought out on the subject of leakage, also the effect of higher pressures on the efficient operations of gas appliances. The general opinion was that proper burner pressures are more satisfactory. Several men considered 5 to 6 in. of water as a very satisfactory pressure, and stated that they had experienced no trouble in adjusting appliances to operate efficiently at this pressure. On account of lack of time the distribution session was adjourned at 12.30 p. m. and motion carried to reconvene at 1.30 p. m.

Mr. Chubb, chairman of the manufacturing session, opened the afternoon meeting by giving a very clear and concise description of the present situation of the gas industry. He showed how, due to the rapid increase in cost of coal, coke and oil, the gas companies now find themselves facing the most critical situation in their history. He told how the American Gas Association is attempting to find at least a partial solution by having experiments made throughout the country in the use of coal for generator fuel and in the use of low-grade oil for gas enriching.

Mr. Chubb stated that after three or four years of testing and experimentation several gas companies in Illinois are successfully using coal from Illinois and Indiana. The capacity of their sets is reduced about 30 to 35 per cent, and, as far as Mr. Chubb can determine, the experiments have been confined to 8-ft. sets or smaller. A few plants in Iowa are now using Indiana coal successfully.

Mr. Warren, of the M. W. Warren Coke Company, addressed the convention on the seriousness of the coke situation. He said that it was very difficult to obtain good coal for coking. His plant, with a capacity of 750 tons per day, is producing only 400 tons. The coal is of a poorer grade, and therefore the quality of the coke is inferior. The mining conditions, plus an acute shortage of railroad cars, are the causes for coke prices soaring. Mr. Warren expects that conditions will be much worse next winter, and suggested that the wise man will build up his stock this summer and should go into next winter with a three months' supply on hand. He thinks that it will be two years before the car shortage is removed.

Mr. Tenney discussed some of the experiments he has made in the use of bituminous coal in small sets, and claimed to have secured good results with old Ben Purity furnace coal, having used 35 to 40 lb. per 1,000 cu. ft. This coal tested 13 per cent ash and gave no clinker troubles.

The gas-oil situation was then introduced and Mr. Chubb read portions of Bulletin No. 7 from the American Gas Association. The use of fuel oils was discussed, and, while no definite successes could be voiced, it seemed to be the opinion that these low-grade oils would eventually be used for gas enriching, and to that end every operator was asked to forward samples and data to the A. G. A. regarding any fuel oil which he may have success in using. It is important that the proper specification be formulated, so that much of the trouble in using fuel oils will be eliminated. One oil may be satisfactory, while another will prove of no use. Their gravities may be identical, but percentage of coke residuum or some other property may cause the difference. It is therefore important to arrive as quickly as possible on the proper specification.

The session was now given over to a discussion on the subject of "Rate." This naturally followed the consideration of the coke and oil situation. All men agreed that it would be absolutely necessary for the public to become acquainted with the present crises. Some thought that rate increases could best be secured by the "good-will" principle, while others, from experience, found that the courts had to be resorted to. Mr. McLean spoke on the question of valuation, and also the right of municipalities to regulate rates in Iowa. A lively discussion on "Rates" led to the appointment of the following committee to draft a resolution expressing the opinion of the men in attendance: F. T. Hanlon, chairman, H. B. Maynard, Thomas Crawford, H. J. Cole and Charles Smith.

"Whereas, The business of manufacturing and distribution of gas constitutes one of the great essentials in modern life and industry, and

"Whereas, The cost of production in this industry has increased as rapidly and to as large an extent as in any other, and

"Whereas, The producers have until this time deferred securing adequate remuneration during the period of active prosecution of the great war and for that time have largely absorbed the increased costs for the purpose of assisting the people in general in bearing the burdens of that period, and

"Whereas, Increased costs now in force and those assured for the immediate future, amounting to 300 to 400 per cent, as to oil, coke and coal, now actually threaten the existence and operation of the gas plants of Iowa, Nebraska and South Dakota, unless adequate relief is obtained; now, therefore, be it

"Resolved, That it is the sense of this meeting of the Iowa District Gas Association, in convention to-day, that, on account of the above facts, to save the gas industry from bankruptcy and the people from suffering and hardship, the communities served with gas in Iowa, Nebraska and South Dakota must grant their respective utilities substantial increases in rates for gas and service, these rates to be revised from time to time as costs permit. Bankruptcy and discontinuance of service is the only alternative."

The new-business session was now concluded by a discussion on the subject of "Main Extensions." It developed that very few situations are extending their mains, due to the lack of return on the investment and to the inability to finance the additions. Various methods of charging the consumers for main extensions were discussed, but no definite conclusions were reached on this subject.

Austin Burt, as chairman of the committee on presidential address, commended the "open forum for interchange of practical experiences in the conduct of our business" as compared with the formal sessions usually conducted at conventions.

The convention closed with a vote of thanks to the local committee on arrangements, a few remarks relative to next year's meet-

ing and a word of encouragement from the president.

The convention was well attended and, if one can judge by expressions from the various men, was a decided success. Everyone. felt that something tangible had been accomplished, and the discussions were of such a nature that no matter what particular phase of the industry a man happened to be interested in he should have received some timely suggestions that will help him in his local situation.

New Gas Standard for Indiana

A new gas heat standard of 570 B.t.u. a cubic foot of artificial gas in Indiana has been established by the public service commission. The order contains also many rules governing gas company service. It will be printed for distribution soon.

The order permits the quality of gas to vary from the standard to a maximum of 600 and a minimum of 540 B.t.u., but the monthly average must be 570 B.t.u.

If the monthly average falls to 559 B.t.u., the rate paid by the consumer is to be only 98 per cent of the regular gas price per 1,000 cu. ft. A table of variations from the regular bill as the monthly average falls below the standard is set up in the order. The order is effective from May 1.

Ever since the war began Indiana has been virtually without a gas quality standard, the old standard of 600 B.t.u. having been abandoned as impractical under modern operating conditions.

A table showing what per cent of the regular price for 1,000 cu. ft. of gas the company may charge a consumer if it fails to maintain a monthly average of less than 560 B.t.u. follows:

From 560 B.t.u. to and including 550 B.t.u., 98 per cent; from 550 to 540, 96 per cent; from 540 to 530, 94 per cent; from 530 to 520, 92 per cent; from 520 to 510, 90 per cent; from 510 to 500, 88 per cent; from 500 to 490, 86 per cent; from 490 to 480, 83 per cent; from 480 to 470, 80 per cent; from 470 to 460, 75 per cent; from 460 to 450, 70 per cent; from 450 to 440, 60 per cent; from 440 to 430, 50 per cent; from 430 to 420, 35 per cent; from 420 to 410, 20 per cent; from 410 to 400, nothing.

The rules provide that when the monthly average B.t.u. is less than standard but not low enough to rebate consumers, the company may be required, on approval by the commission, to pay a penalty to the municipality within which it operates.

The commission, in the order, recognizes that it has jurisdiction, but it passes primary jurisdiction over service to municipal governments and will exercise only appellate jurisdiction.

The gas company shall make free extensions when the cost is equaled in five years by the gross revenue to be derived from the extensions. An arrangement is made for the return of money advanced to the company by persons who wish extensions, if the extensions prove remunerative to the company.

The commission recommends that each municipality place an apparatus whereby it may observe the quality of gas, degree of pressure and such other standards as are required of the gas company.

Certain maximum and minimum pressures in the mains are to be maintained each day. Tests are required at regular intervals.

The commission worked out the rules in connection with the Indiana Municipal League, the Indiana Gas Association and the National Bureau of Standards. It has included in the order, however, some regulations not agreed on by each of the co-operating organizations. Paul P. Haynes, member of the commission, principally was in charge of experiments conducted in working out the rules. H. O. Garman, chief engineer for the commission, directed the technical work.

$1.51 the Average Gas Rate in Forty-five Cities

As a matter of information in regard to the proposed increase of gas rates by the Sea Cliff & Glen Cove (N. Y.) Gas Company, an investigation of the gas rates now current in forty-five cities throughout the State of New York was made. The average rate for the cities reported on was $1.51. The cities of Fulton and Cortland have the highest rates, $2.10 being the ruling price in each city. Kingston and Albany gas users pay $1.15, while cities where natural gas is used enjoy an extremely low rate.

Benzol Supply Short

Shortage of All Crudes—Business at a Virtual Standstill

The market is in the worst shape possible and there have been so few products in which deliveries were possible during the past week that all prices must be considered as more or less nominal in character. Business in spot supplies was at a virtual standstill for the greater part of the period. Trading on the spot was, of course, out of the question in most of the important items on the list, and where business was possible prices were so high that buyers were almost unable to take on supplies. They are not buying more than their immediate needs of any item, and as a result there is very little actual business passing on spot.

The crudes are gradually growing more and more scarce, and it will not be long at the present rate before there will be the same shortage of these important items which were to be noted in the market at the time of the coal and steel strikes. The requirements of the consumers are far in excess of the offers of the producers, and spot goods are limited to the small resale lots which are from time to time in the market. Benzol in particular is short; there are small offers of the 90 per cent grade in the market once in a while at 28 cents a gallon and 30 cents for the pure. The situation at the close of the steel and coal strikes is practically duplicated in the present market.

The list of intermediates showed very little change during the past week. Some advances in spot prices were reported, but makers generally had no comment to make either on the market or on the quotations offered. Production is hampered by shortage of coal and raw materials, and most of the plants are doing only the veriest routine manufacturing which is possible with their present stocks of raw materials and supplies of coal.

There has been no change in the quotations of the producers of the following material:

Creosote Oil—40 cents per gallon for the 25 per cent and 20 cents per gallon for the 15 per cent grade.

Solvent Naphtha—25 to 32 cents per pound.

Toluol—31 cents per gallon for immediate delivery.

Personal Notes

John D. Hackstaff Joins Emerald Oil Company

John D. Hackstaff, who has resigned as general manager of the Empire Pipeline Company, to go with the Emerald organization, has been a prominent figure in oil and gas circles throughout the country for some years. When the Empire Pipeline Company was inaugurated in 1916 by the Henry L. Doherty interests, Mr. Hackstaff was called from California to head the company. It was under his direction the pipelines of the company were built which were to carry the tremendous sudden production of the Empire companies.

In California, Mr. Hackstaff has been general manager of the Southern California Gas Company, and in the oil consulting business. Years ago, in the infancy of the Kansas Natural Gas Company, he was connected with that company.

With the Emerald organization, of which A. J. Diescher is president, Mr. Hackstaff will be connected with the operating end of the business.

Robert M. Searle New President of Rochester Co.

Robert M. Searle, vice-president of the Rochester Gas & Electric Corporation, has been elected president to succeed James T. Hutchings, who resigned in February to take a position as general manager of the U. G. I. Company.

Mr. Searle was born on March 3, 1869, at Peekskill, N. Y. Through adverse circumstances he was thrown as a young boy upon his own resources, and began his business career as an office boy with Thomas A. Edison. He was next employed by the United Gas Improvement Company of Philadelphia as a clerk, and after years of plugging rose to be vice-president of a subsidiary company. Soon after he became an operating executive of the Consolidated Gas Company of New York. The ability of Mr. Searle as a thoroughly competent executive was meanwhile recognized by a number of the larger corporations, and in 1906 the Andrews-Vanderbilt Syndicate appointed him general manager of the Rochester Railway & Light Company, which is now known as the Rochester Gas & Electric Corporation. The company's organization, physical property and business standing rapidly improved under Mr. Searle's expert management, and its forward progress has been continuous and unprecedented. He has since advanced successfully through the office of vice-president to that of president, the highest position the board of directors can confer.

In 1914 Mr. Searle was elected a vice-president of the New York State Railways, which office he held for more than a year, together with that of vice-president of this corporation. He has also been almost continuously retained in a consulting capacity by many of the country's largest public utilities.

Dr. Van H. Manning, Director of the Bureau of Mines, Resigns

Dr. Van H. Manning, Director of the Bureau of Mines, Department of the Interior, has tendered his resignation, effective June 1, to President Wilson. Dr. Manning is leaving the Government service to accept the position as director of research with the recently organized American Petroleum Institute, the most important body of petroleum men of the country.

In his letter to the President Dr. Manning says:

"I hereby tender you my resignation, to take effect June 1, 1920, as Director of the Bureau of Mines.

"It will be with reluctance and deep regret that I shall sever my connection with the Department of the Interior after thirty-four years of active service therein, but it is the opportunity of being able to continue in another capacity the work for the advancement of purposes fostered by the department that has been the chief factor in determining my decision to resign."

W. O. Henderson, former sales manager of the A-B Stove Company, at Battle Creek, Mich., has assumed the position of president and general manager of the St. Paul Gas Appliance Company, St. Paul, Minn.

Mr. Henderson has been a member of the Battle Creek Chamber of Commerce and other organizations there. He returned to Battle Creek last July after having had charge of the A-B Stove Company's factory in Montreal, Canada, for seven years.

Louis H. Egan, vice-president and general manager of the St. Louis Electric Light & Power Company and of the St. Louis County Gas Company, has been elected president of both companies. He succeeds J. T. Mortimer, of New York, whose resignation from the companies and their holding company, the North American, was announced March 31.

Mr. Egan is a graduate of Yale, and has been connected with the St. Louis companies since November, 1916.

Charles E. West, who for twenty years has been office manager with the Portland Gas Light Company, Portland, Me., has resigned and formed other business associations in Portland.

Mr. West is a graduate of Syracuse University, and a year after leaving college and following a brief stay in the eastern part of the State, went to work for the gas company where he has been located since, and where there is general regret that he is to enter other work.

Thomas J. Kelly, who for several years has been superintendent of the gas plant of the Northern Indiana Gas & Electric Company, in Fort Wayne, Ind., will become assistant to Chief Engineer Warnick and will also be local superintendent of distribution. He will be located in Fort Wayne and his title will be that of assistant engineer.

J. C. Grey, chief engineer of the Northern Indiana Gas & Electric Company, in Fort Wayne, Ind., has resigned to take a position as manager of a gas plant in Lansing, Mich. Before coming to Indiana, Mr. Grey was for many years superintendent of the Savannah (Ga.) Gas Company.

W. A. Morris, present superintendent of distribution of the Northern Indiana Gas & Electric Company, at Fort Wayne, Ind., will become district manager at Peru and Wabash, succeeding T. B. Genay. In addition he will also supervise distribution at Logansport.

J. H. Warnick, of Philadelphia, will succeed J. C. Grey as chief engineer of the southern division of the Northern Indiana Gas & Electric Company. He will be located in Fort Wayne, Ind.

Ann Arbor Gas Company Has Novel Franchise

The Ann Arbor (Mich.) Gas Company, which is working under a novel franchise and rate adjustment plan, has appeared before the State Public Utilities Commission with an application for authority to have the rate schedule revised to take care of the added cost of production.

The Ann Arbor gas franchise provides that the matter of the rate shall be in the hands of the utilities commission and was adopted before there was any such body in Michigan. It provides that in the absence of such a commission the rates shall be fixed by a special committee of three, one appointed by the company, one by the city and one by the Supreme Court. This special committee or commission fixed the rates under which the Ann Arbor Gas Company supplied the city and which the company now claims are unfair and unjust.

The novel feature of the franchise or rate schedule is found in the fact that it offers an incentive for economical service. The company is given the authority to charge any rate it sees fit, up to $1.15 for each 1,000 cu. ft. of gas. But there are conditions which aim to and do tend to keep the price down. At rates between $1.10 and $1.15 all profits of the company above guarantee of net 5 per cent are returned to the consumer on a pro rata basis. As a rate of $1.05 to $1.10, 12½ per cent of the profits go to the company and 87½ per cent are returned to the consumer. On rates of from $1 to $1.05 the company can keep 25 per cent of the profits and must return 75 per cent to the consumer. On a rate of 75 cents the company has the authority to retain all its profits.

This plan is said to have worked out very satisfactorily until the cost of production soared so high that, no matter how careful the management, the company was unable to show profits on a rate basis that would mean any material return to the company. The refund to the company's patrons last year is said to have netted about 6 per cent of their gas bills.

Now the company desires to have a readjustment of the schedule in order that it may charge more for the gas and have the benefit of a greater portion of its profits.

Its claim is that it cannot produce and distribute gas at a cost that will permit a rate under the schedule that will give the company a reasonable share in the profits. It also has asked for authority to bond for $200,000 for necessary extensions.

Present Rates to Be Continued Indefinitely

Rates of the Goshen (Ind.) Gas Company are to be continued indefinitely, under an order issued by the Indiana Public Service Commission April 13. Nov. 21, 1917, the company petitioned the commission asking for authority to advance rates. The petition was granted and the new rates became effective with the provision they should continue until May 1, 1920. Recently the company filed a petition with the commission asking for rate readjustment. The commission "is of the opinion that the cost of labor and material of all kinds which enter into the maintenance and operation of this utility have not been reduced; that it would be financially impossible for the petitioner to operate on rates existing prior to said order putting into effect present rates, and that said present rates and charges should be continued until the order of the commission in the cause now pending."

$80,000 Suit Won by Arkansas Gas Company

S. E. Dillon, general manager for the public utilities in Hot Springs, Ark., won a signal fight for the gas consumers of Hot Springs when the United States Circuit Court of Appeals affirmed the suit formerly won in the lower Federal court, whereby the local distributing company had saved about $80,000 to the big gas consumers of Hot Springs.

Some time ago the Arkansas Gas Company, the supply agents for the local distributers, ordered a raise of the gas rates to all consumers in Hot Springs, Little Rock, Pine Bluff and a number of other Arkansas cities. In the other cities generally the order of raise was complied with.

General Manager Dillon refused to make the raise in the rates and the matter was finally gotten into the Federal court at Little Rock, where an order was made that the supply company here would have to make the increase, pertaining mostly to the large consumers, but that the increase in price could be kept in a separate fund to be determined later when the merit of the suit was threshed out in the court.

Mr. Dillon secured the services of Martin, Wootton & Martin to represent the distributing company, and the suit was won in the first trial of the cause but went on to the highest court of the land. Notice has just been received from the United States Circuit Court of Appeals stating that the suit had been affirmed as passed on in the lower court.

The victory is not alone a material one for the gas users of this city, and not only makes them a saving of about $80,000, but is a precedent which will be most useful to the other cities and which, no doubt, will be most extensive.

Request for Stock Issue Is Granted

The Department of Public Utilities of Massachusetts has granted the Adams (Mass.) Gas Light Company permission to issue additional preferred stock in the amount of $133,000.

The new stock will be issued at $100 a share, par value, and will be in addition to the outstanding stock issue of $60,000, which members of the company say does not represent the entire capital invested. It is understood that about $15,000 will be put into a new transformer station, which officials say is badly needed, while other money will be used for further new improvements and to wipe out old indebtedness.

Contracts Awarded

The Department of Public Utilities, Richmond, Va., has awarded contract to the Stacey Manufacturing Company, of Cincinnati, Ohio, for the furnishing and erection of a four-lift 2,000,000 cu. ft. capacity gas holder, to be installed at the Richmond City Gas Works.

Worcester Co. Asks Further Increase in Rates

Worcester Gas Light Company, Worcester, Mass., has again petitioned the Department of Public Utilities to fix a higher price at which gas may be sold in Worcester. The present price is $1.30 per 1,000 cu. ft. at which rate the company claims it cannot operate at a profit.

Bemidji Gas Company Asks Increased Rates

The Public Improvement Company, known as the Bemidji Gas Company, of Bemidji, Minn., has made a request that the rates of the company be adjusted in the franchises granted, October, 1916, large increases in cost of production being stated as the reason for the request.

In the franchise, the rates provided was $1.50 per 1,000 net, which was ample at that time, provided the consumption of gas reached the amount expected within a reasonable time. In February, 1919, the organization of the company began a change and at present the stock is entirely owned by Bemidji men.

The plant has been running at a loss for about a year, and it is believed the stockholders are entitled to at least 8 per cent. To obtain such rate of interest it will be necessary to grant a net rate of $1.80 per 1,000 ft., in place of the $1.50 now in effect.

Coal is 25 per cent higher than in 1916. Coke is about the same, while gas oil is over 100 per cent higher and still going up.

In nearly all business, the petition says, merchants can increase prices in accordance to costs, but the gas company requires the consent of two parties to change a contract, when the contract was made at a time when everything was normal and costs reasonable. And it was stated that unforeseen circumstances have changed conditions, and it would only be fair to the company to grant such an increase as will give a reasonable profit, only asking for an increase of 20 per cent.

Social Affairs for Worcester Gas Workers

General Manager C. E. Paige, of the Worcester Gas Light Company, Worcester, Mass., has announced the completion of the plan for the forming of a novel organization among employees of the gas company, the object of which will be to establish closer co-operation between the employees themselves, and with the officers of the company.

The 250 gas workers, including the office forces, have been invited to attend a supper and informal social affair which will be held in the dining room of the Boston store. Plans include the serving of a good substantial supper, with music from an orchestra, followed by a varied program.

This will be the first of a series of such suppers and entertainments with the gas company as host, held every two or three months. It is probable that, should the employees desire to, an organization with a board of officers may be formed, but the main idea is to "get acquainted."

A similar plan has been inaugurated among employees of the Springfield and Malden Gas companies, of which Mr. Paige was formerly manager, with excellent results.

Gas Meters to Be Read by Photograph

The gas meters in New York City are to be read by photograph. Meter readers employed by the gas company will be equipped with small cameras which fit over the indicator on the meter. By pressing a button light is thrown on the dial and exposure made, showing the amount of gas consumed since the last photograph.

48-Cent Temporary Rate Allowed Oklahoma Natural Gas Company

The Oklahoma Natural Gas Company, through distributing utilities, will be allowed to charge 48 cents per 1,000 cu. ft. for gas to domestic consumers the first 100,000 ft., 40 cents to industrial consumers for the next 400,000 ft., and 35 cents for all over 500,000 ft.

This is the contract the gas company has been trying to close for the last three weeks. In making the order the Corporation Commission places a limit of time on a period to close Oct. 1 within which the commission charges the company to make the complete overhauling and inventory of the business. This is to be presented to the commission for it to determine whether or not to make the new rate permanent. This decision will depend upon whether or not the company is making a reasonable return on its investment, and gives authority under the law to the commission to reduce the rate if it sees fit. The new rates, however, will be in force until Oct. 1.

The Central Counties Gas Co., which operates in Visalia, Exeter, Lindsay, Porterville and Tulare, Cal., has applied to the Railroad Commission for authority to increase rates for gas 12½ per cent.

Rochester G. & E. Corporation Would Modify Its Rates

The Rochester (N. Y.) Gas & Electric Corporation has asked the public service commission for authority to modify its rates. The company asks permission to make a service charge of 40 cents a month on every meter and offers to lower its net rate from 95 to 90 cents.

The company holds that this plan has worked out in other cities in a favorable manner. This plan would require that consumers must pay a charge of 40 cents on each meter every month, and it is contended this would result in an increased revenue to the company.

When asked about the requested change in rates, R. M. Searle, president of the Rochester Gas & Electric Corporation, stated that the changes if allowed would mean an average increase for each user of gas in this city of about 1 cent a day.

Consumers who use 8,000 cu. ft. of gas a month, he stated, would about break even, as compared with the present rate, through the imposition of the proposed service charge and the decrease of 5 cents in the rate.

At the same time it is expected that imposition of a service charge will increase consumption on the part of those who now use very little gas each month, yet who have the service available.

As the law forbids the levying of a meter charge, the local company asks permission to impose a "service charge," which, Mr. Searle explains, is to meet the expenses of carrying the account, furnishing meter and other charges incident to the company maintaining service adequate to the consumer's requirements. In cases where meters are removed the service charge would cease, as it would be imposed only in cases where meters are installed.

The Easthampton Gas Company, Easthampton, Mass., has given notice that beginning May 15 the price of gas will be advanced from $2 to $2.50 for 1,000 ft. If more than 2,000 ft. are consumed in a month the amount in excess of this will be $2. The reason given for the advance is the increased cost of coal and labor.

Allentown-Bethlehem Company Asks Advance in Gas Rates

The Allentown-Bethlehem Gas Company, Allentown, Pa., has filed with the public service commission a notice of an increase in gas rates. This will be the second raise in the company's rates in less than a year, a meter charge having been granted some time ago by the public service commission.

Consumers will be obliged to pay approximately 50 cents per month more for gas under the new service charges, which have been fixed as follows:

Three-light or five-light meters, 75 cents per meter per month; 5A, ten-light or thirty-light meters, $1 per month; forty-five-light, 10A, sixty or eighty light meters, $1.25 per month; 100-light capacity meter and over, $1.50 per month.

All rates for gas consumed less than the existing base rate are eliminated.

Nine months ago the company increased its rates, fixing service charges of 25, 50 and 75 cents per month; but this, it is said, was not sufficient to take care of the heavy increases in the cost of manufacture and distribution.

"The time has come," says the company's statement, "when we cannot meet the changed conditions without additional revenue. The cost of gas is absolutely beyond our control and depends entirely upon the prices we are compelled to pay for the materials and labor required to produce it."

Altoona Gas Company Moves to New Office

The Altoona Gas & Fuel Company, Altoona, Pa., which has recently gained much new business as the result of people discarding natural gas for artificial gas, has established a new office.

The company has removed from its old quarters and has taken possession of an office in the Kipple Building, and fitted it up in a convenient manner to meet the demands of its patrons.

Harvard Improvement Association Discusses Gas Rate Increase

Frederick M. Hoyt, newly elected president of the Harvard Improvement Association, presided at the April meeting held at Dorchester, Mass.

The increased cost of gas from $1 to $1.10 as allowed by the Public Utilities Commission was taken up, discussed and it was voted that a committee, consisting of Messrs. N. Thomas Merritt, Jr., chairman; Carlton L. Brett and Wallace McNaught, co-operate with the A. D. Little Company and expert accountant firm of Messrs. Patterson, Teele & Dennis, who are making an investigation of the affairs of the company. The mayor recommended an appropriation of $24,000 and the city council voted the same for this work. It is said that there are three companies interested in the gas question at the present time under designations of the New England Gas & Coke Company, the Holding Company and the Boston Consolidated Gas Company. That the by-products from the coal such as coke, coal tar, sulphur, etc., yield a sufficient profit to give them free gas, which is sold to the Boston Consolidated Gas Company, at 15 cents per 1,000, and we, the consumers, are now expected to pay $1.10 for the same gas.

Ogdensburg Gas Co. Files New Rate Schedule

The Ogdensburg (N. Y.) Gas Company proposes, under a tariff filed with the Public Service Commission, Second District, and effective on May 24, these new rates for gas in Ogdensburg:

For light, fuel and power service, $2.25 net per 1,000 cu. ft. for the first 5,000 cu. ft. used a month; $2 net for the next 5,000; $1.75 net for the next 5,000, and $1.50 net for all over 15,000.

The present rate for the first 5,000 cu. ft. a month is $1.90 a thousand.

Samuel Wyer Predicts Gas Shortage in Buffalo

Samuel S. Wyer, consulting engineer, predicts that gas-shortage conditions will be worse in Buffalo next winter than during the recent period of cold weather.

"The natural gas conditions in Buffalo this coming winter," says Mr. Wyer, "will be worse than during the past winter, unless prompt steps are taken to bring about more efficient utilization in the home. Even during the gas-shortage period Buffalo natural gas homes received an average of 480 cu. ft. of natural gas per day, while the manufactured gas homes used only 157 cu. ft. of gas per day, this gas having only half the heating value of natural gas.

"There is ample natural gas for everyone now, and for many years to come, if the heating load is eliminated and the residue gas is used efficiently and made worth saving."

$15,000 Bond Issue Authorized

Pursuant to an order issued by the State Railroad Commission, the Modesto Gas Company, Modesto, Cal., is authorized to issue $15,000 of its first mortgage 6 per cent bonds for extending the plant.

The proceeds will be used to install an 8-in. feed line. The company will also install a 4-in. main to enable the company to give service in the "Capital Heights Addition."

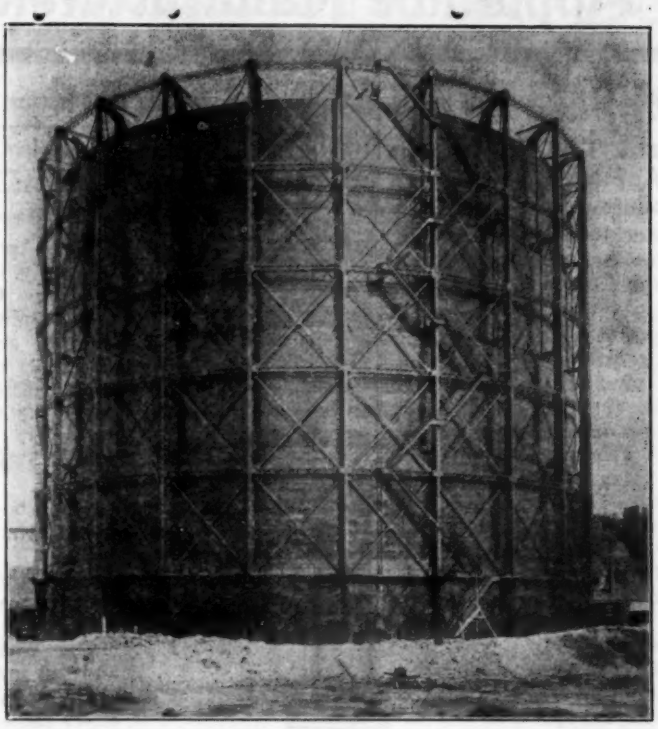
The growth of Modesto is indicated by figures submitted at the hearing of the application to issue bonds. In 1917 the company had 1,308 consumers. In 1913 it had 1,420 and in 1919 it had 1,671. In 1918 the operating expenses were $49,908.06 and in 1919 they were $75,355.05.

THE NEWBURYPORT GAS & ELECTRIC LIGHT COMPANY, Newburyport, Mass., has petitioned the Department of Public Utilities that a higher rate be allowed at which it might sell gas. The company now charges $1.80 per 1,000 cu. ft.

RITER-CONLEY CO.

PITTSBURGH, PA.

PURIFYING BOXES



STEEL TANKS

BUILDERS OF

TWENTY YEARS EXPERIENCE **GAS HOLDERS** HAS TAUGHT US HOW

STEEL CONSTRUCTION OF ALL KINDS

Philadelphia	Pottstown	Detroit	Chicago	Cincinnati
Washington	New York	Boston	Syracuse	San Francisco

GAS PURIFYING MATERIALS

NATRONA RED ORE
To Be Mixed With Fluffing Material

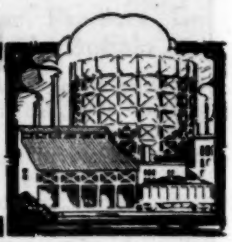
MINERAL SPONGE
The Best Fluffing Material

MINERAL SPONGE OXIDE
Prepared For Use

PENNSYLVANIA SALT MFG. CO.

PHILADELPHIA WIDENER BUILDING PENNA.

With The Equipment & Appliance Manufacturers



Conducted by Business Department of American Gas Engineering Journal

A System of Automatic Temperature Control Applied to Gas-Fired Boilers

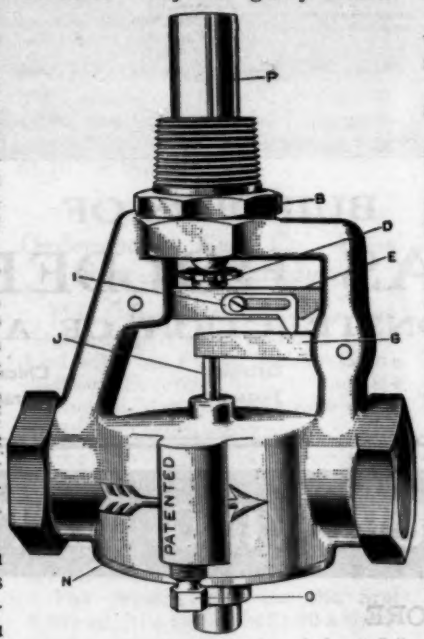
The illustration shown is of a Thermostat Valve made by the Robertshaw Manufacturing Company, Youngwood, Pa.

The No. 3 type valve is of the disc type, designed for use in controlling the flow of fuel gas of practically every known grade and analysis, where the pressure does not exceed 1½ lb. per square inch. Where a higher pressure than 1½ lb. is used, the No. 3 hp. is employed.

This size is the one most generally used for industrial purposes. It is also adaptable to the greatest number of industrial heat treating processes. This No. 3 is a single unit, self-contained thermostat, and does not employ any materials subject to deterioration; no volatile liquids, ether, alcohol or gasoline enter its make-up. No unstable inert gases are used as expanding media; it operates by the force developed by the expansion of the metallic couple, and, therefore, no expensive or unreliable auxiliary force, such as compressed air, water, electricity, or batteries are used to operate it. The expanding element is metallic, varying to meet the different corrosion and heat resisting demands, and has been selected after years of experience in many processes. The non-expanding element is our patented carbonaceous rod, carefully compounded to meet the temperature requirements.

By this direct control system you can control temperatures as high as 1,000 deg. Fahr., and with the indirect system or relative control you can control as high as 2,000 deg. Fahr. When the relative control is used, the couple is not exposed directly to the heat. As the materials used vary, it is a good practice to mention the maximum and minimum temperatures. This type can be furnished in sizes from ½ to 2½-in. gas openings. Where it is necessary to make frequent changes in temperature settings, a handy temperature adjusting dial is furnished.

This type can be used in connection with atmospheric Bunsen burners, the Selas System (low pressure), the Kemp System and the Ratiometer Systems of Combustion and certain types of surface combustion burners. They will gladly furnish descriptive literature to any gas company on request.



NO3 TYPE

"Tycos"

The April number of "Tycos," a quarterly issued by the Taylor Instrument Company, Rochester, N. Y., contains several articles on subjects of general interest, as well as a number of short reprinted articles from different publications. We quote the following:

THE REAL SALESMAN

One who has a steady eye, a steady nerve, a steady tongue, and steady habits.

One who understands men and who can make himself understood by men.

One who turns up with a smile and still smiles if he is turned down.

One who strives to out-think the buyer rather than to out-talk him.

One who is silent when he has nothing to say and also when the buyer has something to say.

One who takes a firm interest in his firm's interest.

One who knows that he is looking out for his own interests by looking out for his customer's interests.

One who keeps his word, his temper and his friends.

One who wins respect by being respectable and respectful.

One who can be courteous in the face of discourtesy.

One who has self-confidence but does not show it.

One who is loved by his fellowmen.—*Bates Service.*

This company makes a complete line of temperature thermometers—indicating, recording and controlling.

Cox's Low Pressure Computer, Price $2.50
Cox's High Pressure Computer, Price, $5.00
For sale by
AMERICAN GAS ENGINEERING JOURNAL
150 Nassau Street, New York City

THE SCOOP CONVEYOR

Saves 6 to 10 Men Loading or Unloading COAL, COKE, ASHES SAND, GRAVEL etc.
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PORTABLE MACHINERY CO.
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